MULTIPLE CHOICE QUESTIONS SUBJECT WISE
VETERINARY SCIENCE & ANIMAL SCIENCE

-:PREPARE BY:-

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AGB-I

1.Genetic drift is applicable for
   a. Small population
   b. Large population
   c. Both
   d. None

2.Non Additive Gene Involves
   a. Dominance
   b. Epistatsis
   c. Interaction
   d. All the above

3.Which buffalo breed is used for upgradation in Jammu region
   a. Nili Ravi
   b.Mehsana
   c. Murrah
   d. Bhadawari

4. Comb type is an example of
   a. Quantitative
   b. Qualitative
   c. Pure
   d. Commercial gene action

5. Selection utilizes which type of gene action
   a. Additive gene action
   b. Non Additive gene action
   c. Both
   d. None of the above

6. The exotic breed used for cross breeding in sheep for fine wool is
   a. Bikaneri
   b. South down
   c. Corridale
   d. Rambouillet

7.Chromosome number in Camel is
   a. 72
   b. 74
   c. 76
   d. 64

8. If the coefficient of selection is 0.25, then fitness is
   a. 0.25
   b. 0.50
   c. 0.75
   d. 1.00

9. The proportion of Sex linked genes in a population is
   a. Higher in heterogametic sex
   b. Higher in homogametic sex
   c. Equal in both sexes
   d. None of the above

10. Epistatic ratio of 9:7 is observed in
   a. Recessive epistasis
   b. Duplicate Recessive epistasis
   c. Dominant epistasis
   d. None of the above

Key: 1.(a), 2.(d), 3.(c), 4. (b) 5. (a) 6.(d), 7.(b), 8. (c), 9.(c), 10. (b)

AGB-II

1. **If a population has the following genotype frequencies, AA = 0.42, Aa= 0.46, and aa= 0.12.what are the allele frequencies**?
a) A = 0.42 a= 0.12
b) A = 0.60 a= 0.40
c) A = 0.65 a =0.35
d) A = 0.76 a = 0.24

2. **The greatest source of genetic variation inanimal populations is from**
a) mutations
b) sexual reproduction
c) selection
d) geographic variation

3.**During the first meiotic division (meiosis I)**
a) homologous chromosomes separate
b)chromosome number is reduced in half
c) crossing over between nonsister chromatids occurs
d) all of the above

4. **An individual with the genotype of AABbCcDD can make how many different kinds of gametes?**
a) 2
b) 4
c) 8
d) 16
e) 32

5. **In a cross that follows a single trait, if a homozygous dominant is crossed with a heterozygote for a given trait, the offspring will be:**
a) all of the dominant phenotype
b) ¼ of the recessive phenotype
c) all homozygous dominant
d) all homozygous recessive

6**.Recessiveepistasis ratio:**
a) 12:3:1
b) 13:3
c) 9:3:4
d) 15:1

7.**Estimates of the number of genes in a mammalian genome are**:
(a) Between 3,000 to 6,000.
(b) Between 30,000 to 60,000.
(c) Between 300,000 to 600,000.
(d) None of theabove.

8.EBV is
(a) Used for culling and mating decisions & to measure genetic change
(b) Obtained from statistical linear models
(c) Two times the ETA
(d) All of the above

9. Suppose you have a herd of cows that were all cloned from a single individual. That is, the entire herd is genetically identical, i.e. 100% of genes are identical by descent in all animals.
(a) All animals would have exactly the same phenotype (e.g. same amount of milk yield).
(b) All animals would have exactly the same EBV.
(d) Animals would have different EBV because the phenotypes are all different.
(e) All animals would look exactly the same.

10. Most common Robert sonaian translocation in cattle involves which chromosome number shift
(a) 1 to 26
(b) 1 to 27
(c) 1 to 28
(d) 1 to 29

Key: cbdbacbdbd

AGB-III

1. A cross between two true breeding lines one with dark blue flowers and one with bright white flowers produces F1 offspring that are light blue. When the F1 progeny are selfed a 1:2:1 ratio of dark blue to light blue to white flowers is observed. What genetic phenomenon is consistent with these results?

a. epistasis
b. incomplete dominance
c. codominance
d. inbreeding depression
e. random mating

2. Mutations which occur in body cells which do not go on to form gametes can be classified as:

a. auxotrophic mutations
b. *somatic mutations*
c. morphological mutations
d. oncogenes
e. temperature sensitive mutations

3. What would be the frequency of AABBCC individuals from a mating of two AaBbCc individuals?

a.. *1/64*
b. 1/32
c. 1/16
d. 1/8
e. 3/16
f. 1/4

4. The stage of meiosis in which chromosomes pair and cross over is:

a. *prophase I*
b. metaphase I
c. prophase II
d. metaphase II
e. anaphase II

5. Polyploidy refers to:

a. extra copies of a gene adjacent to each other on a chromosome
b. an individual with complete extra sets of chromosomes
c. a chromosome which has replicated but not divided
d. multiple ribosomes present on a single mRNA
e. an inversion which does not include the centromere

6. A gene showing codominance-

a. has both alleles independently expressed in the heterozygote
b. has one allele dominant to the other
c. has alleles tightly linked on the same chromosome
d. has alleles expressed at the same time in development
e. has alleles that are recessive to each other

7. The phenomenon of "independent assortment" refers to:
    a. expression at the same stage of development
    b. *unlinked transmission of genes in crosses resulting from being located on different chromsomes, or far apart on the same chromosome.*
    c. association of an RNA and a protein implying related function
    d. independent location of genes from each other in an interphase cell
    e. association of a protein and a DNA sequence implying related function

8. Mendel's law of segregation, as applied to the behavior of chromosomes in meiosis, means that:
    a. pairing of homologs will convert one allele into the other, leading to separation of the types.
    b. *alleles of a gene separate from each other when homologs separate in meiosis I, or in meiosis II if there is a single crossover between the gene and the centromere.*
    c. genes on the same chromosome will show 50% recombination
    d. alleles of a gene will be linked and passed on together through meiosis

9. Which component of transcribed RNA in eukaryotes is present in the initial transcript but is removed before translation occurs:
    a. *Intron*
    b. 3' Poly A tail
    c. Ribosome binding site
    d. 5' cap
    e. codons coding for the protein to be produced

10. Choose the correct statement about the genetic code.
    a. includes 61 codons for amino acids and 3 stop codons
    b. almost universal; exactly the same in most genetic systems
    c. three bases per codon
    d. some amino acids are coded by multiple codons
    e. *all of the above*

11. X-chromosome inactivation
    a. normally takes place in males but not females
    b. is the cause of the Y chromosome being genetically inactive
    c. takes place in humans so that the same X chromosome is inactive in all of the cells of a female
    d. occurs in fruit flies but not in mammals
    e. *results in genetically turning off one of the two X chromosomes in female mammals*

12. DNA ligase is:

a. *an enzyme that joins fragments in normal DNA replication*
b. an enzyme involved in protein synthesis
c. an enzyme of bacterial origin which cuts DNA at defined base sequences
d. an enzyme that facilitates transcription of specific genes
e. an enzyme which limits the level to which a particular nutrient reaches

13. An Hfr strain of E. coli contains:

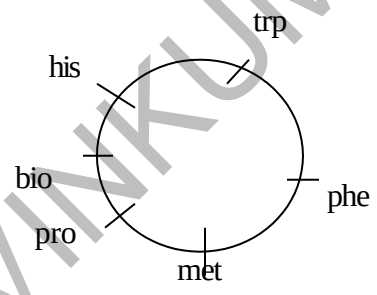
a. a vector of yeast or bacterial origin which is used to make many copies of a particular DNA sequence
b. a bacterial chromosome with a human gene inserted
c. a bacterial chromosome with the F factor inserted
d. a human chromosome with a transposable element inserted
e. a bacterial chromosome with a phage inserted

14. An experiment was conducted in *E. coli* to map the following genes (pro, his, bio, met, phe and trp) on a circular map using 3 different Hfr strains.

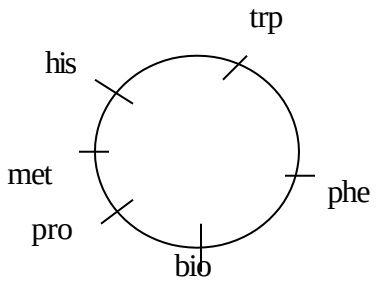
Strain 1 Order of transfer (early to late):	trp	met	his	pro
Strain 2 Order of transfer (early to late):	his	met	trp	bio
Strain 3 Order of transfer (early to late):	pro	phe	bio	trp

Based on the results what is the most likely map?

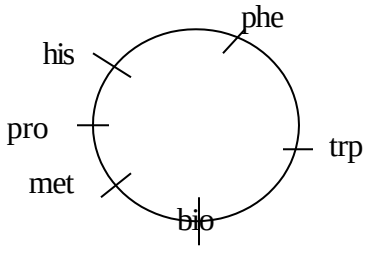
a.



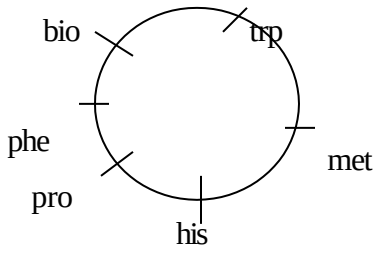
b.



c.



d.



15. Generation of antibody diversity in vertebrate animals takes place through:
    a. the presence of as many genes in the germ line as there are types of antibodies possible.
    b. infection with bacteria carrying antibody genes
    c. infection with viruses carrying antibody genes
    d. polyploidy in antibody-forming cells
    e. *rearrangement of DNA in tissues that go on to produce antibodies*

16. Replication of DNA:
    a. takes place in a "conservative" manner
    b. takes place in a "dispersive" manner
    c. *takes place in a "semi-conservative" manner*
    d. usually involves one origin of replication per chromosome in eukaryotes
    e. takes place only in the 3' to 5' direction

17. A duplication is:
    a. an exchange between non-homologous chromosomes, resulting in chromosomes with new genes adjacent to each other.
    b. loss of genes in part of a chromosome
    c. *an extra copy of the genes on part of a chromosome*
    d. a reversal of order of genes on a chromosome
    e. an extra set of chromosomes in an organism

18. What is the co-transduction frequency for the A and B genes, from the following dataset? (Assume that there has been selection for the A+ form of the A gene).

Genotype	Number
A+B+ C+	10
A+B+ C-	30
A+ B- C+	20
A+ B- C-	40

    a. .10
    b. .20
    c. .30
    d. .40
    e. .50

19. A mutation in a codon leads to the substitution of one amino acid with another. What is the name for this type of mutation?
    a. nonsense mutation
    b. *missense mutation*
    c. frameshift mutation
    d. promoter muttion
    e. operator mutation

20. Mapping of human chromosomes:
    a. has been restricted to the sex chromosomes because of small family sizes
    b. *proceeded much more successfully as large numbers of DNA markers became available.*
    c. has determined that the number of linkage groups is about twice the number of chromosomes
    d. has demonstrated that almost all of the DNA is involved in coding for genes
    e. has shown that there are more genes on the Y than on the X chromosome

21. Homeobox sequences
    a. *are present in the genome of many animal species*
    b. are found in prokaryotes but not in eukaryotes
    c. were identified as the integration sites for bacterial viruses
    d. represent integration sites for transposable elements
    e. represent the termination signals for transcription

22. Tracing of a cell lineage during development means that:
    a. *the cells giving rise to and derived from a specific cell are known*
    b. the sequence of the enhancers for developmental genes is known
    c. the regulatory genes for the organism have been genetically mapped
    d. cell components in the membrane involved in signaling have been isolated
    e. cell components in the nucleus involved in signaling have been isolated

23. Zinc finger proteins and helix-turn-helix proteins are:
    a. types of DNA-binding proteins
    b.involved in the control of translation
    c.components of ribosomes
    d.part of the hemoglobin in blood cells
    e.bound to transfer RNA during replication

24. Transcriptional activator proteins:
    a. transcribe a messenger off a DNA template
    b. bind to ribosomes to activate the production of specific proteins
    c. are produced during an infection of bacteria by a phage
    d. are essential to function of transfer RNAs during translation
    e. bind regions near a eukaryotic gene and allow an RNA polymerase to transcribe a gene

25.Differential distribution of substances in the egg most typically results in:
    a. *differences in gene expression which may establish a pattern in the embryo as the cells divide*
    b. amplification of specific genes during development
    c.development of polyploid tissues
    d.loss of specific genes during development
    e.dominance of genes derived from the father

26. Arabidopsis is advantageous for plant genetic research because:
    a. it is commercially important as a food crop b. it is an endangered species
    c. it is the closest to humans of any existing plant
    d. it is a small plant with a small genome size which can be raised inexpensively
    e. it is a close relative of corn and results with this species can be applied to problems in corn

27. A homeotic mutation is one which:
    a. is present in only one form in an individual
    b. substitutes one body part for another in development
    c. results in development of a tumor
    d. is wild type at one temperature and abnormal at another e. leads to increased body size in an organism

28. Assuming that the level of glucose is low, a mutation in the repressor of the lac operon in E. coli, preventing binding of the repressor to the operator, should result in:
    a. *constitutive expression of the lac operon genes*
    b. lack of expression or reduced expression of the lac operon genes under all circumstances
    c. expression of the genes only when lactose is present d. expression of the genes only when lactose is absent

29. Assuming that the level of glucose is low, a mutation in the repressor associated with the lac operon of E. coli which prevents binding of the repressor to lactose should result in:
    a. constitutive expression of the lac operon genes
    b. *lack of expression or reduced expression of the lac operon genes under all circumstances*
    c. expression of the genes only when lactose is present d. expression of the genes only when lactose is absent

30. RFLP analysis is a technique that
    a. *uses hybridization to detect specific DNA restriction fragments in genomic DNA*
    b. is used to determine whether a gene is transcribed in specific cells c. measures the transfer frequency of genes during conjugation
    d. is used to detect genetic variation at the protein level. e. is used to amplify genes for producing useful products

31. Plasmid vectors for cloning
    a. can generally accommodate larger inserts than phage vectors can
    b. grow within bacteria, and are present in bacterial colonies on an agar plate
    c. can accommodate inserts of over 100 kilobases
    d. include centromeres to allow propagation in yeast
    e. burst bacteria and form plaques on a "lawn" of bacteria

32. Simple tandem repeat polymorphisms in humans are most useful for:
    a. *solving criminal and paternity cases*
    b. reconstructing the relationships of humans and chimps. c. estimating relationships of humans and Neanderthals
    d. transferring disease resistance factors into bone marrow cells e. estimating matches for blood transfusions

33. The polymerase chain reaction or PCR is a technique that
    a. was used to demonstrate DNA as the genetic material
    b. is used to determine the content of minerals in a soil sample
    c. *uses short DNA primers and a thermostable DNA polymerase to replicate specific DNA sequences in vitro*.
    d. measures the ribosome transfer rate during translation
    e. detects the level of polymerases involved in replication

34. Positional cloning refers to:
    a. using a selection procedure to clone a cDNA
    b. cloning a portion of a gene using PCR
    c. isolating a gene by PCR using primers from another species
    d. isolating a gene from a specific tissue in which it is being expressed
    e. *mapping a gene to a chromosomal region and then identifying and cloning a genomic copy of the gene from the region*

35. Large quantities of useful products can be produced through genetic engineering involving:
    a. bacteria containing recombinant plasmids b. yeast carrying foreign genes
    c. transgenic plants
    d. mammals producing substances in their milk
    e. all of the above

36. On average, how many fragments would a restriction enzyme which recognizes a specific 4 base sequence in DNA be expected to cleave a double-stranded bacteriophage with a genome size of 5,000 bp into?
    a. about 2 b. about 4
    c. about 20
    d. about 50
    e. about 1250

37. The "sticky ends" generated by restriction enzymes allow:
    a. selection for plasmids lacking antibiotic resistance
    b. easy identification of plasmids which carry an insert c. replication of transfer RNA within the bacterial cell
    d. insertion of centromeres into ribosomes lacking them
    e. *pieces of DNA from different sources to hybridize to each other and to be joined together*

38. QTL analysis is used to:
    a. identify RNA polymerase binding sites b. map genes in bacterial viruses
    c. determine which genes are expressed at a developmental stage
    d. *identify chromosome regions associated with a complex trait in a genetic cross*
    e. determine the most rapidly-evolving parts of genes

39. Assuming Hardy-Weinberg equilibrium, the genoypte frequency of heterozygotes, if the frequency of the two alleles at the gene being studied are 0.6 and 0.4, will be:
    a. 0.80 b. 0.64 c. *0.48*
    d. 0.32 e. 0.16

40. The likelihood of an individual in a population carrying two specific alleles of a human DNA marker, each of which has a frequency of 0.2, will be:
    a. 0.4 b. 0.32 c. 0.16
    d. *0.08* e. 0.02

41. A threshold trait is one which:
    a. is expressed on a continuous scale (such as blood pressure)
    b. *is present in a few discrete classes, but is influenced by both genetics and the environment (such as diabetes or schizophrenia)*
    c. is caused by only a single gene, with no environmental influence d. is present in a very low frequency in the population
    e. is associated with superior survival of the heterozygote

42. Mitochondrial DNA is advantageous for evolutionary studies because:
    a. it is inherited only through the female parent and thus evolves in a way that allows trees of relationship to be easily constructed
    b. it is inserted into the X chromosome
    c. it first appeared in humans and is not found in other animals d. it evolves more slowly than the genes in the nucleus
    e. it was derived from the globin genes as an extra copy

43. What are the assumptions of Hardy Weinberg equilibrium?
    a. Small population size, random mating, no selection, no migration, no mutation
    b. *large population size, random mating, no selection, no migration, no mutation*
    c. large population size, random mating, heterozygotes survive the best, no migration, no mutation
    d. large population size, like individuals mate, no selection, no migration, no mutation e. large population size, random mating, no selection, migrants enter from other populations, no mutation

44. Twin studies in humans are useful because:
    a. they allow more refined estimates of chromosome location to be made b. twins have a greater likelihood of being heterozygous
    c. they allow improved expression of genes
    d. cloning of genes is facilitated by the presence of extra copies.
    e. *they allow genetic as opposed to environmental influences on variation in a trait to be estimated*

45. Which of the following statements about heritability are true?
    a. is a measure of level of gene linkage b. is a measure of inbreeding
    c. is a measure of proportion of repeated DNA in an organism d. is a measure of the level of heterozygotes in a population
    e. *is a measure of the proportion of variation that is due to genetic causes*

46. The allele associated with sickle cell anemia apparently reached a high frequency in some human populations due to:
    a. random mating
    b. *superior fitness of heterozygotes in areas where malaria was present*
    c. migration of individuals with the allele into other populations d. a high mutation rate at that specific gene
    e. genetic drift

47. An increase in the inbreeding coefficient, F,is likely to result in:
    a. *reduced likelihood of heterozygotes being present in a population*
    b. higher proportion of genes that show linkage c. higher proportion of genes with introns
    d. lower level of difference between proteins in two daughter cells
    e. higher level of difference between RNA molecules in two daughter cells

48. Most new mutations appear to be:
    a. beneficial
    b. *neutral or deleterious*
    c. present in homozygotes rather than heterozygotes
    d. detectable using allozyme studies (protein electrophoresis)
    e. present within pericentric inversions

49. If the frequency of males affected with an X-linked recessive condition in a human population is .10 (one in ten), what will be the expected frequency of affected females? a.0001
    b. .001 c.
    .02 d. *.01* e.
    .05

50. The following genotypes are found in a population:

AA	Aa	aa
70	50	20

What are the allele frequencies of A and a?
a. A = 0.86 and a = 0.14 *b.* *A = 0.68 and a = 0.32* c. A = 0.63 and a = 0.36 d. A = 0.32 and a = 0.68 e. A = 0.36 and a = 0.63

51. Which of the laws of Mendel is a fundamental law
    a) Law of Dominance
    b) *Law of Segregation*
    c) Law of Independent Assortment
    d) all the above

52. Co-dominance is exemplified in
    a) sickle cell anaemia
    b) ABO blood group system
    c) *both of these*
    d) none of these

53. Phenotypic Ratio in F_2 in semi-lethal gene action will be
    a) 1:1
    b) 2:1
    c) 3:1
    d) 3:2

54. Which of the following is true
    a) A bull has half of genes for milk production to that present in cow
    b) Superiority of a bull is transmitted to all daughters but not to male calf
    c) Superiority of a bull is because of some holandric genes for milk production that pass from bull to male calves only
    d) None of these

55. In sex influenced traits
    a) A bull has half of genes for the trait as compared to cow
    b) Gene Expression depends on hormonal profile of the carrier
    c) The genes are present on autosomes but their regulatory genes are present on sex chromosomes
    d) Genes are present on sex chromosomes but their regulatory mechanism is somehow governed by autosomal set of chromosomes

56. Exchange of segments between non-homologous chromosomes is called
    a) Robertsonian translocation
    b) kno-how translocation
    c) exchange can occur between homologous chromosomes only
    d) non-hom-chrom exchange

57. Haemophilia is an coded by
    a) sex linked semi-lethal gene
    b) sex limited semi-lethal recessive gene
    c) sex linked lethal recessive gene
    d) sex limited recessive lethal gene

58. Comb pattern in Poultry is an example of
    a) Gene interaction where typical Mendelian dihybrid ratio is observed in F2.
    b) dominant recessive epistasis modifying the ratio to 9:6:1
    c) double recessive epistasis modifying the ratio to 9:7
    d) Simple Mendelian trait governed by two genes.

59. X-chromosome inactivation
    a. normally takes place in males but not females
    b. takes place in humans so that the same X chromosome is inactive in all of the cells of a female
    c. occurs in fruit flies but not in mammals
    d. *results in genetically turning off one of the two X chromosomes in female mammals*

Key: Options written in italics are the right answers

ANATOMY

1. Growth occurs by

a. An increase in the number of cells b. An increase in the size of the cells
c. An increase in the amount of extracellular material d. All of the above

2. Caudal portion of the mesonephric duct from the level of tail of epididymis to the out budding of the seminal vesicle remains straight and obtains a thick muscular fold and is known as

a. Ductus deferens b. Ejaculatory duct c. Paragenital tubules d. None of these

3. Mammary glands is modified

a. Sweat gland of apocrine type b. Sweat gland of holocrine type
c. Sebaceous glands of apocrine type d. Sebaceous gland of holocrine type

4. Eye develops from

a. Forebrain b. Ectoderm of head c. Adjacent mesenchyme d. All of these

5. Father of Modern Embryology

a. Karl Earnst Von Baer b. His c. Hertwig d. Van Beneden

6. Dislodged or indurated synovial villi may be found free in the joint cavity called as

a. Joint mice b. Joint villi c. J oint capsule d. All of these

7. Cinematographic analysis of the movements of the limbs in a walking horse

a. Bokinematics b. Biostatistics c. Mechanicobiology d. Both a & b

8. Convexities of one bone articulates with corresponding concavities of another bone in

a. Ginglymus joint b. Ball and socket joint c. Gliding joint d. Plane joint

9. Which is the largest organ in the body?

a. Skin b. Liver c. Large intestine d. Brain

10. Pneumatic bones are feature of

a. Fowl b. Dog c. Cat d. Rabbit

11. Os cordis is

a. Visceral bone b. Sesamoid bone c. Irregular bone d. None of these

12. Acromion process is absent in

a. horse b. ox c. both d. none

13. Carnivores are

a. Plantigrade b. Digitigrade c. Unguligrade d. Both a & b

14. Smallest of the three parts of the os coxae

a. Ileum b. Ischium c. Pubis d. None of these

15. Largest bony foramen in the body
a. Obturator foramen b. Foramen magnum
c. Cotyloid cavity d. Foramen orbitorotandum

16. Vertebral formulae of dog
a. $C_7\ T_{18}\ L_6\ S_5\ Ca(Cy)_{15\text{-}21}$ b. $C_7\ T_{14\text{-}15}\ L_{6\text{-}7}\ S_4\ Ca(Cy)_{20\text{-}23}$
c. $C_7\ T_{13}\ L_7\ S_3\ Ca(Cy)_{20\text{-}2}$ d. $C_7\ T_{12\text{-}13}\ L_{6\text{-}7}\ S_4\ Ca(Cy)_{14\text{-}18}$

17. Each muscle fibre is surrounded by a network of reticular fibres known as
a. Endomysium b. Epimysium c. Perimysium d. Sarcolemma

18. 'V' shaped muscle lying behind the shoulder
a. Deltoideus b. Teres minor c. Supraspinatus d. Infraspinatus

19. The structural and functional unit of nervous system is
a. Neuroglia b. Neuron c. Astrocyte d. Schwan cell

20. Bipolar neurons are commonly seen in
a. Ear b. CNS of higher mammal's c. Eye d. All of these

21. The dorsal, midsagittal, sickle-shaped fold of dura mater, which extends ventrally between the cerebral hemispheres
a. Falx cerebri b. Tentorium cerebelli c. Both a &b d. Diaphragma selle

22. Diencephalon constitutes
a. Thalamus b. Pineal body c. Mamillary body d. All of these

23. Smallest / finest cranial nerve is
a. Optic nerve b.Trochlear nerve c. Abducent d. Trigeminal nerve

24. Largest or great basal nuclei of the cerebral hemisphere
a. Corpus striatum b. Corpus callosum c. Caudate nucleus d. none of these

25. In ox heart extends between
a. 4^{th} to 7^{th} ribs b.2^{nd} to 5^{th} ribs c. 2^{nd} –to 6^{th} ribs d. 3^{rd} and 6^{th} ribs

26. The rounded musculo-tendinous bands extending from the interventricular septum to the lateral wall of the heart are known as
a.Moderator bands b.Trabeculae carneae c. Chordae tendinae
d. Musculi papillares

27. The sinu-atrial (SA) node or Keith – Flack node , a small mass of modified cardiac muscle is situated in the
a. Wall of the right ventricle b. Wall of the left atrium
c. Wall of the right atrium d. None of these

28. Rete mirabile cerebri is absent in
a. Horse b. Dog c. both a & b d. Ox

29. Retractor bulbi is absent in
a. Man b. Ox c. Birds d. Both a & c

30. The canal of Schlemn is present in the eyes of
a. Human b. Ox c. Fowl d. All of these

31. Papilla salivalis, is at the level of the upper 5th cheek tooth in
a. Dog b. Cat c. Cattle d. Pig

32. Foliate papillae are present in
a. Dog b. Cat c. Cattle d. Horse

33. Dieterich's Method of Hyo-vertebrotomy is performed in case of
a. Choking b. Blockage of stenson's duct c. Empyema of guttural pouch d. None of these

34. Pharyngeal Diverticulum is seen in
a. Pig b. Dog c. Horse d. Ox

35. In new born animals, size of abomasum is equal to
a. Rumen b. Reticulum c. 2 (Rumen + reticulum) d. Rumen + reticulum/2

36. Caeca are two in number in
a. Fowl b. Sheep c. Horse d. Human

37. The largest gland in the body is
a. Thyroid b. Parathyroid c. Liver d. Pancreas

38. Lobulated kidney is the feature of
a. Sheep b. Goat c. Ox d. Human

39. Scrotum is absent in
a. Elephant b. Fowl c. Both a & b c. Rabbit

40. Longitudinal testis parallel to long axis of body is seen in
a. Ox b. Ram c. Man d. Stallion

41. Only prostate gland is present
a. Dog b. Cat c. Bull d. Horse

42. In Boar sigmoid flexure is
a. Absent b.Prescrotal c. Postscrotal d. Spirally twisted

43. Only left ovary in the form of bunch of grapes is present
a. Hen b. Dove c. Mare d. Sow

44. Row of beads that radiate from internal opening of teat canal is called
a. Corona radiata b. Teat cistern c. Rosette of Furstenburg d. None of these

45. Argyrophilic fibres are
a. Collagen fibres b. Elastic fibres c. Reticular fibres d. All of these

46. Plasma cell is
a. Wandering cell b. Fixed cell c. Both a & b d. None of these

47. Leaf-like organized structure is
a. Cerebrum b. Cerebellum c. Pituitary d. Adrenal

48. Os opticum is seen in
a. Mammals b. Birds c. Both a & b d. none

49. Skull bones show which type of ossification
a. Intramembraneous b. Endochondral c. Mixed d. None

50. Lumbosacral mass occurs in
a. Rabbit b. Fowl c. Pig d. Horse

Answer Key

Q.No	Answer
1	d
2	a
3	a
4	d
5	a
6	a
7	a
8	a
9	a
10	a
11	a
12	a
13	b
14	c
15	a
16	c
17	a
18	a
19	b

20	c
21	a
22	d
23	b
24	a
25	d
26	a
27	c
28	c
29	d
30	a
31	c
32	d
33	c
34	a
35	c
36	a
37	c
38	c
39	c
40	d
41	a
42	b
43	a
44	c
45	c
46	a
47	b
48	b
49	a
50	b

ANATOMY-II

1. **Pully like articular mass:**
   a. Trochanter
   b. Trochlea
   c. Condyle
   d. Process
2. **Supratrochlear foramen is present in humerus of:**
   a. Dog
   b. Ox
   c. Horse
   d. Pig
3. **The number of lobes in liver of dog are:**
   a. Three
   b. Four
   c. Five
   d. Seven
4. **Glans penis and corona glandis is well developed in:**
   a. Dog
   b. Boar
   c. Stallion
   d. Ox
5. **The free border of ovary is marked by ovulation fossa in:**
   a. Mare
   b. Bitch
   c. Queen
   d. None
6. **On basis of mode of secretion, mammary gland is:**
   a. Apocrine
   b. None of the above
   c. Cytocrine
   d. Merocrine
7. **The gliocytes of PNS are:**
   a. Schwann's Cells
   b. Astrocytes
   c. Oligodendrocytes
   d. None of the above
8. **The bronchiolar exocrine cells are:**
   a. Clara cells
   b. Basal cells
   c. Ciliated cells
   d. None of the above
9. **The large subunit of ribosomes consists of ___ (number) molecules of rRNA:**
   a. Three
   b. Four
   c. Five
   d. Eight
10. **Nasal and otic placodes arise from:**
    a. Ectoderm
    b. Mesoderm
    c. Endoderm
    d. None of the above

KEY

1.	**b**
2.	**a**
3.	**c**
4.	**c**
5.	**a**
6.	**a**
7.	**a**
8.	**a**
9.	**a**
10.	**a**

ANATOMY-III

1. Recently one of the following has been declared as an organ
A. Broad ligament B. Pleura C. Mesentery D. Omentum

2. Endotheliochorial placenta is observed in
A.Carnivores B.Equines C. Rabbit D. Ruminants

3.Orbital ligament is observed in the skull of
A. EquinesB.Canines C. Bovines D. Ovines

4.Number of sacral segments in dog is
A. Three. B.Four C.Five D. Six

5.Epithelial tissue is derived from
A. Ectoderm B. MesodermC.Endoderm D.All of these

6.**Quadrate bone is found in**
A. Ox B. Horse C.Dog D.None

7.Epididymis has the lining epithelium as
A. Simple cuboidal B. Pseudostratified columnar C. Simple columnarD. Simple squamous

8.The cortex of ovary is in the centre and medulla outside in case of
A. Mare B.Cow C. Bitch D. Ewe

9.**Smallest part of small intestine is** **A.** Duodenum**B.** Jejunum**C.**Ilium**D.**None of these

10.Tapetumlucidium is absent in
A. Horse **B.** Ox **C.** Dog **D.** Pig

KEY

1. Mesentery 2. Carnivores 3.Canines 4.Three 5. All of these 6.None 7.Pseudostratified columnar epithelium 8.Mare 9. None of these 10.Pig

BIOCHEMISTRY

1. Which among the following is an example of homopolysaccharides:
   A. Heparin B. Chondroitin sulphate C. Chitin D. Hyaluronic acid
   B.
2. An example of basic amino acid is:
   A. Lysine B. Arginine C. Histidine D. All of These

3. The thymine is also named as
   A. 2, 4-dioxypyrimidine B. 5-Methyl Uracil C. 4 amino,2,4-dioxypyrimidine
   D.6 aminopurine

4. Development of recombinant DNA technology is based on discovery of:
   A. Plasmids B. Restriction endonucleases C. cDNA D. YACs

5. A palindrome is a sequence of nucleotides in DNA that:
   A. has local symmetry and may serve as recognition site for various proteins.
   B. is highly reiterated C. is a part of introns of gene D. is a structural gene

6. which of the following is a common compound shared by TCA cycle and the Urea cycle
   A. Succinyl co A B. α Keto glutarate C. OAA D. Fumarate

7. A disorder of phenylalanine metabolism occurs due to the deficiency of enzyme:
   A. Phenylalanine Hydroxylase B. Homogentistic acid oxidase
   C. Hydrolases D. Transaminase

8. DNA molecule is stabilized by
   A. Hydrogen bonds B. hydrophobic bonding b/w stacked bases
   C. both A and B Disulfide bonding

9. The hormone whose release results in dieresis is:
   A. Atrial Natriuretic Factor B. ADH C. Renin D. None of these

10. Which of the following is not the effect of insulin on glucose metabolism?
A. Stimulation of glycogen synthesis B. Increasing glucose transport into fat and muscle
C. Promoting gluconeogenesis D. Promoting gluconeogenesis

Answers

1	c	6	D
2	D	7	B
3	B	8	C
4	B	9	A
5	A	10	C

Animal Biotechnology

1. TA cloning is based on the addition of which nucleotide to 3' end of PCR amplicon during extension stage of polymerase chain reaction:

a) Thymine
b) Adenine
c) Guanine
d) Uracil

2. Which type of restriction endonucleases is the most used in genetic engineering:

a) Type I restriction endonucleases
b) Type II restriction endonucleases
c) Type III restriction endonucleases
d) Type IV restriction endonucleases

3. Restriction endonucleases are also known as

a) Peptide cutters
b) Biological scissors
c) Biological tailors
d) Synthetic scissors

4. Live coverage of PCR amplification is observed in:

a) Conventional polymerase chain reaction
b) Realtime-Polymerase Chain reaction
c) Restriction digestion-Polymerase Chain reaction
d) RAPD-Polymerase Chain reaction

5. Which of the bacterial cells is mostly used for transformation of recombinant DNA

a) Salmonella typhimurium
b) Staphylococcus aureus
c) Mycobacterium tuberculosis
d) E. Coli

6. Mamalian cell culture can be used in:

a) Virus amplification
b) Virus titer calculation
c) Both of the above
d) None of the above

7. Cryoprotectant used to cryo-preserve bacterial cells:

a) Glycerol
b) Propanol
c) Ethyl-alcohol
d) Iso-amyl alcohol

8. Which pair of nucleotides will have the highest impact in increasing the melting temperature (Tm) of primers:
a) Guanine and Thymine
b) Thymine and Cytosine
c) Guanine and Cytosine
d) Thymine and Adenine

9. DNA is visualised under UV transilluminator after staining with:
a) Trypan Blue
b) Giemsa stain
c) India Ink
d) Ethidium bromide

10. Which flourescent dye is used in Realtime-PCR:
a) Trypan Blue
b) SYBGR
c) Ethidium bromide
d) Silver stain

11. During extension stage of PCR, Taq polymerase adds nucleotides to which end/s of the primer:
a) 3’ end
b) 5’ end
c) Between 3’ and 5’ ends
d) None of the above

12. Multiple pathogens can be diagnosed using which molecular diagnostic technique/s:
a) DNA Microarray
b) Multiplex PCR
c) Both a & b
d) None of the above

13. Which of the following is best suited for production of virus free plants:
a) Embryo culture
b) Meristem culture
c) Ovule culture
d) Anther culture

14. Cybrids are:
a) Nuclear hybrids
b) Hybrids derived from cross pollination
c) Cytoplasmic hybrids
d) Cytological hybrids

15. Batch cultures are types of suspension culture where:
a) Medium is continuously replaced
b) Medium is loaded only at the begining
c) No depletion of medium occurs
d) Cellular wastes are continuously replaced and removed

16. Dimethy Sulfoxide (DMSO) is used as:
a) Gelling agent
b) Alkylating agent
c) Chetaling agent
d) Cryoprotectant

17. The uptake of plasmid DNA into the bacterial cells is facilated by the presence of ..... in the medium:
a) Calcium Chloride
b) Potassium Chloride
c) Hydrogen peroxide
d) None of the above

18. Two dimensional gel eletrophoresis (2-DE) is used to analyze :
a) RNA
b) DNA
c) Proteins
d) Lipids

19. Which of the following extracted molecules is/are the most susceptible to degradation at lower temperatures:
a) Proteins
b) DNA
c) RNA
d) Both a & c

20. DNA fingerprinting was first developed by:
a) David suzuki
b) Hargobind Khorana
c) Alec Jaffreys
d) Walter Gilbert

21. Which of them is not a reptititive DNA:
a) Microsatellites
b) Single Sequence repeats
c) Minisatellites
d) Internal transcribed spacer DNA

22. Which protein has been produced generating a transgenic sheep that is used for replacement therapy for individuals at risk from emphysema?
a) Plasminogen activator (tPA)
b) α-anti trypsin (AAT)
c) Casein
d) Amyloid precursor proteins

23. Which of the following statements best describes a clone?
a) An artificial life form
b) An offspring where all of the genetic material in every cell is identical to that of both parents
c) An offspring where all of the genetic material in every cell is identical to that of one of its parents
d) A type of sheep

24. Transgenic goats produce a variant of human tissue type plasminogen activator protein in:
a) Blood
b) Urine
c) Milk
d) Muscles

25. Multiple ovulation and embryo transfer (MOET)
a) can increase the rate of progress in dairy cattle
b) allows progeny testing of males
c) allows progeny testing of females
d) all of the above

26. Introduction of DNA into cells by exposing to high voltage electric pulse:
a) Electrofussion
b) Electrofission
c) Electrolysis
d) Electroporation

27. Glyoxyxomes are organnelles involved in:
a) Conversion of amino acid to proteins
b) Conversion of fatty acids to carbohydrates
c) Conversion of amino-acids to carbohydrates
d) Conversion of fatty-acids to lipids

28. Which of the following is regulatory RNA?
a) rRNA
b) tRNA
c) sRNA
d) Micro RNA

29. BT brinjal is an example of transgenic crops. In this, BT refers to
(A) Bacillus tuberculosis
(B) Biotechnology
(C) Betacarotene
(D) Bacillus thuringiensis

30. Which one of the following technique is used to produce Flavr Savr tomato?
a) rDNA technology
b) Trangenesis
c) Antisense RNA technology
d) rRNA technology

KEY

1b
2 b
3 b
4 b
5 d
6 c
7 a
8 c
9 d
10 b
11 a
12 c
13 b
14c
15 b
16 d
17 a
18c
19 d
20 c
21 d
22 b
23 c
24 c
25 d
26 d
27 b
28 d
29d
30 c

EXTENSION

1. Which of the following communities use comparatively more Indigenous Technical Knowledge/Practices (ITK) in livestock rearing than their other counterparts?
    a. Rural
    b. Urban
    c. Semi-Urban
    d. Tribal
2. The instrument used by extension to bring the desirable change in its clients is
    a. Teaching
    b. Learning
    c. Communication
    d. Adoption
3. Operation Flood III (OF-III) was completed in year
    a. 1992
    b. 1994
    c. 1996
    d. 1998
4. Which of the following amendments involving Panchayati Raj was enacted in year 1992?
    a. 91st
    b. 92nd
    c. 72nd
    d. 73rd
5. TRYSEM is a sub-plan of
    a. IRDP
    b. ICDP
    c. DWCRA
    d. SGSY
6. The newly constituted institute that replaced six decade old Planning Commission in India is
    a. Yojana Aayog
    b. NITI Aayog
    c. Rashtriya Vikas Aayog
    d. Vikas Aayog
7. The concept of multipurpose village level worker was evolved from
    a. Etawah Pilot Project
    b. Community Development Project
    c. National Extension Service
    d. Gurgoan Project
8. A systemic display of models, specimens, charts etc. in a sequence around a theme is called as
    a. Exhibition
    b. Farmers Fair
    c. Demonstration
    d. Campaign
9. Which of the following is an element of difference between community and society?
    a. Definite locality
    b. A group of persons
    c. Likeness of interest

d. Sentiment of oneness

10. In State Farming the owner of land is
    a. Government
    b. Farmers
    c. Landlord
    d. Cooperative society
11. Which of the following committee advocated three tier system of Panchayati Raj?
    a. Ashok Mehta Committee
    b. Balwant Rai Mehta Committee
    c. Thorat Committee
    d. S. K. Dey Committee
12. Intensive Cattle Development Programme (ICDP) was launched in year
    a. 1951-52
    b. 1964-65
    c. 1978-79
    d. 1980-81
13. Nazism is a classical example of
    a. Social stratification
    b. Social disintegration
    c. Ethnocentrism
    d. Cultural conflicts
14. Extension programme planning should have
    a. Flexibility with permanence
    b. Objectivity and rigidity
    c. Balance with emphasis
    d. None of the above
15. Which of the following sensory organs / senses contribute maximum in learning of people in extension education?
    a. Smell
    b. Hearing
    c. Touch
    d. Sight
16. The basic operational unit for rural development in India is
    a. Village
    b. Block
    c. Tehsil
    d. District
17. Which of the following is an informal method of social control?
    a. Belief
    b. Coercion
    c. Law
    d. Education
18. The ultimate objective of extension is
    a. Increase productivity
    b. Increase income
    c. Rural development
    d. Realize one's fullest potential

19. ‘Mazdoor Manzil’ is an another name given to
    a. Etawah Pilot Project
    b. Marthandam Project
    c. Firka Development Scheme
    d. Nilokheri Experiment

20. The task to prepare e-course modules for B.V.Sc & A.H. degree programme, developed under National Agricultural Innovation Project (NAIP) of ICAR was undertaken by
    a. TANUVAS - Chennai
    b. GADVASU – Ludhiana
    c. IVRI- Bareilly
    c. NDRI - Karnal

21. Group to which an individual refers at the time of taking action or making a decision.
    (a) Reference group
    (b) Out group
    (c) Friendship group
    (d) None

22. First state to fully adopt the Panchayati Raj system is
    (a) West Bengal
    (b) Rajasthan
    (c) Karnataka
    (d) Andhra Pradesh

23. National Extension Service was launched in
    (a) 1950
    (b) 1953
    (c) 1951
    (d) 1952

24. Who is regarded as the Father of White Revolution?
    (a) Verghese Kurien
    (b) M. S. Swaminathan
    (c) K. N. Singh
    (d) None

25. A process by which an individual, through his own efforts and abilities, changes his behavior is called
    (a) Teaching
    (b) Learning
    (c) Both the above
    (d) None

26. Usually a single commodity by itself rarely satisfies the human want and calls for something else in addition, as such human wants are
    a. Absolute
    b. Complementary
    c. Competitive
    d. Recurring

27. The price below which the seller will refuse to sell a product is called as
    a. Reserve Price
    b. Secular Price

c. Market Price
d. Normal Price

28. When a negligible fall in the prices of a commodity leads to an infinite extension in its demand, then its demand is said to be

a. Perfectly elastic
b. Perfectly inelastic
c. Imperfectly elastic
d. Imperfectly inelastic

29. When the marginal product (MP) is constant then the total product (TP) is
    a. Increasing at increasing rate
    b. Increasing at decreasing rate
    c. Increasing at constant rate
    d. Constant
30. The aggregate demand of all the consumers combined for the commodity or services is called
    a. Individual Seller's demand
    b. Cross demand
    c. Industry demand
    d. None of the above
31. The concept of unity of command is complementary to the principle of
    a. Supervision
    b. Scalar principle
    c. Authority
    d. Span of control
32. The literal meaning of word 'management' is
    a. House keeping
    b. Personal administration
    c. Store keeping
    d. Staff placement
33. The shift of supply curve to the right side means
    a. Increase in supply
    b. Decrease supply
    c. No change in supply
    d. None of the above
34. Which of the following shows the results of buying and selling of goods?
    a. Profit and loss account
    b. Trading account
    c. Balance sheet
    d. Nominal Account
35. Price under a perfect market condition depends primarily upon.
    a) Demand
    b) Supply
    c) Both a & b
    d) None of the above
36. Establishing intentional structure of roles for people to fill in an organization is
    a. Planning
    b. Organizing
    c. Controlling
    d. Coordinating
37. Where is National Institute for Agricultural Marketing (NIAM) located in India?
    a. New Delhi
    b. Pune
    c. Jaipur
    d. Bhopal
38. Which of the following characteristics is / are necessary for an item to be called as 'good'

a. Utility
b. Scarcity
c. Transferability
d. All of the above

39. Which of the following is the tertiary marketing function?
a. Processing
b. Packaging
c. Grading
d. Insurance

40. Sunshine is an example of
a. Free good
b. Economic good
c. Giffen good
d. None of the above

41. The word 'entrepreneur' is derived from
a. Greek
b. Latin
c. French
d. German

42. The entrepreneurs that are conservative or orthodox in outlook and never like to get rid of their traditional business are called
a. Adoptive Entrepreneurs
b. Drone Entrepreneurs
c. Empirical Entrepreneurs
d. Cognitive Entrepreneur

43. Which of the following is not the primary function of an entrepreneur?
a. Innovation
b. Risk bearing
c. Organization
d. Banking

44. The most important feature present in an entrepreneur include
a. High need for achievement
b. High knowledge about the business
c. High operational skills
d. High financial resources

45. An entrepreneur who works within the organizational environment is called
a. Entrapreneur
b. Intrepreneur
c. Intrapreneur
d. Ultrapreneur

46. Livestock Insurance in India started in
a. Late 70's
b. Late 80's
c. Early 90's
d. Late 90's

47. The stage/phase in the development of entrepreneurship when an idea resurfaces as a realistic creation with the recognition of that idea as being feasible solution is called

a. Germination
b. Creation
c. Incubation
d. Illumination

48. In case of interpersonal communication, when the information is known to the sender (self) and the receiver (other), the effective communication takes place in region known as
    a. Arena
    b. Blind spot
    c. Facade
    d. Unknown

49. The search for seed and growth capital is the entire focus of the entrepreneur as per the
    a. Environment school of thought
    b. Financial school of thought
    c. Entrepreneurial trait school of thought
    d. None of the above

50 The easiest, oldest and most popular form of business based on type of ownership with no legal requirements for establishment except obtaining of licenses, permits and regulations is
    a. Sole proprietorship
    b. Partnership
    c. Corporation
    d. Joint Venture

Answer Key

S. No.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
Ans.	d	c	c	d	a	b	a	a	a	a
S. No.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.
Ans.	b	b	c	c	d	b	d	d	d	a
S. No.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.
Ans.	a	b	b	a	b	b	a	a	c	c
S. No.	31.	32.	33.	34.	35.	36.	37.	38.	39.	40.
Ans.	b	a	a	b	c	b	c	d	d	a
S. No.	41.	42.	43.	44.	45.	46.	47.	48.	49.	50.
Ans.	c	b	d	a	c	a	d	a	b	a

GYNAECOLOGY-I

1. Low land abortion or Marsh land abortion is due to
    a) Fescue poisoning
    b) Leptospirosis
    c) Nitrate poisoning
    d) None
2. Cervix is poorly defined in
    a) Mare
    b) Cow
    c) Goat
    d) Bitch
3. In rabbits, the substance that plays role in embryonic nutrition is
    a) Uteroglobulin
    b) Histotroph
    c) Uteroalbumin
    d) Uterotroph
4. Shape of CL in mare is
    a) Onion like
    b) Peach like
    c) Cauliflower like
    d) Potato like
5. Antimicrobial ingredient of semen is
    a) Seminal plasmin
    b) Nitrous oxide
    c) Fructose
    d) All
6. Most important spermicidal heavy metals is
    a) Manganese
    b) Copper
    c) Nickel
    d) None
7. The fertile life of ova in bitch is
    a) 2-3 days
    b) 24-48 hrs
    c) 10-15 days
    d) 4-8 days
8. Number of carbon atoms in an estrogen are
    a) 18
    b) 17
    c) 14
    d) 20
9. Semen that is generally more vulnerable to freezing is
    a) Ram semen
    b) Stallion semen
    c) Boar semen
    d) Dog semen

10. A species in which epididymis can produce testosterone is
    a) Boar
    b) Stallion
    c) Tom
    d) Dog
11. Extender that can preserve semen at room temperature is
    a) Egg yolk citrate
    b) Coconut milk extender
    c) TRIS
    d) All the above
12. Tobin's medium is used for sample containing
    a) Campylobacter
    b) Listeria
    c) Leptospira
    d) Tricomanas
13. Presence of Brucella organisms in the blood is referred as
    a) Abortococaemia
    b) Melitococaemia
    c) Bactremia
    d) All the above
14. The optimum concentration of actively motile spermatozoa in frozen bull semen should be
    a) More than 50 millon
    b) 50 million
    c) 20-30 million
    d) 10-15 million
15. The temperature of AV for bull should be
    a) 41°c
    b) 43 °c
    c) 39 °c
    d) 35°c
16. Semen with least abnormal spermatozoa is
    a) Bull semen
    b) Stallion semen
    c) Ram semen
    d) Boar semen
17. Condition in which straight rear legs and contracted gastronemius muscle are formed is known as
    a) Spastic paresis
    b) Syndacrylism
    c) Toeing in
    d) None
18. A ruminant with diffused placenta is
    a) Deer
    b) Camel
    c) Goat

d) None

19. Uterine torsion is common in
    a) Cow
    b) Mare
    c) Goat
    d) Ewe

20. Intercornual ligament is absent in
    a) Cow
    b) Bitch
    c) Queen
    d) Both b & c
21. Aborted fetus due to IBR-IPV reveals the signs of
    a) Patechial heart
    b) Placentitis
    c) Hepatitis
    d) All the above
22. Time required for involution in sow is
    a) 10 days
    b) 15 days
    c) 25 days
    d) 30 days
23. Exogenous oxytocin has luteolytic action in
    a) Bitch
    b) Cow & Ewe
    c) Cattle & Sow
    d) Cow & Doe
24. In birds and reptiles ---------- is important for contraction of shell glands and vagina to induce oviposition
    a) Oxytocin only
    b) FSH & LH
    c) Prolactin and vasopressin
    d) Vasotocin

25. 4 - Cell stage embryo is transported from site of fertilization to uterus in
    a) Sow
    b) Mare
    c) Ewe
    d) Cattle
26. Predominant immunoglobulin in follicular fluid is
    a) Ig A
    b) Ig M
    c) Ig G
    d) Ig E
27. Glans penis is absent in
    a) Dog
    b) Tom
    c) Boar
    d) Ram
28. Boars masturbate by inserting their penis inside the preputial diverticulum and ejaculate, the condition is termed as
    a) Rolling up
    b) Tyeing up

c) Balling up
d) All the above

29. The long half life of PMSG is due to
    a) Ascorbic acid
    b) Palmitic acid
    c) Stearic acid
    d) Sialic acid
30. Time taken by the spermatozoa to reach the site of fertilization after AI/ NS is
    a) 5-30 minutes
    b) 30-60 minutes
    c) 60-90 minutes
    d) Both b & c

31. The mode of ultrasound generally used for the reproductive purpose is
    a) A-mode
    b) B-mode
    c) M-mode
    d) None
32. Contagious equine metritis is caused by
    a) Trypanosoma equiperdum
    b) Trypanosoma equinum
    c) Taylorella equigenitalis
    d) E. Coli
33. Campylobacter abortion occurs mostly during
    a) First trimester
    b) Mid trimester
    c) Last trimester
    d) None
34. Relaxin is --------- in nature
    a) Peptide
    b) Steroid
    c) Protein
    d) Phospholipid
35. Traumatic cause of dystocia is categorised as
    a) Basic cause
    b) Immediate cause
    c) Both a & b
    d) None
36. Nowadays the best vaccine against bovine and ovine brucellosis is
    a) S-19
    b) B.A. 45/20
    c) RB-51
    d) Both a & b
37. Foot hill abortion refers to
    a) EBA
    b) IBR-IPV
    c) BVD/ MD
    d) All the above

38. Time required for expulsion of fetus in mare is
    a) 1.0- 4.0 hours
    b) 0.5- 3.0 hours
    c) 0.5 – 2.0 hours
    d) 10-30 minutes
39. Swiss-cheese appearance is observed in endometrial glands of
    a) Anestrus
    b) Nymphomanic cow
    c) Metritis
    d) Silent heat syndrome
40. The nurse cells of testes are
    a) Primary germ cells
    b) Oxyntic cells
    c) Sertoli cells
    d) Interstitial cells
41. Ovulation occurs in sow at
    a) 12 hours after onset of estrus
    b) 12 hours after end of estrus
    c) 17 hours before end of estrus
    d) 2nd day of estrus
42. Testes are intra-abdominal in
    a) Fowl
    b) Seal
    c) Rhinoceros
    d) All the above
43. Number of caruncles found in the uterus of an ewe are
    a) 88-96
    b) 77-86
    c) 20-30
    d) 10-20
44. Instead of caruncles ..... are found in the uterus of mare
    a) Buttons
    b) Zonary area
    c) Longitudinal folds
    d) Crests
45. Fertilization takes place after.....hours post ovulation in cattle and buffalo
    a) 12 hours
    b) 14 hours
    c) 2- 4 hours
    d) ½ to 2 hours
46. Split heat is a characteristic of
    a) Bitch
    b) Mare
    c) Queen
    d) Ewe
47. Ovulation time in cat is

a) About 37 hours after coitus
b) About 27 hours after coitus
c) Towards end of estrus
d) 1-2 days before end of estrus

48. In which species temporary teat engorgement is found as a sign of heat
    a) Cow
    b) Buffalo
    c) Mare
    d) Ewe

49. Half life of FSH is
    a) 30 minutes
    b) 15 minutes
    c) 3 hours
    d) 1 hour

50. For the management of mismating/ misalliance in bitches, the use of ..... is exceptionally better
    a) Natural prostaglandin
    b) Synthetic prostaglandin
    c) Progesterone
    d) hCG

Key:

1=c, 2=d, 3=a, 4=c, 5=a, 6=b, 7=d, 8=a, 9=c, 10=b, 11=b, 12=d, 13=b, 14=c, 15=a, 16=c, 17=a, 18=b, 19=a, 20=d, 21=d, 22=a, 23=d, 24=d, 25=a, 26=c, 27=b, 28=c, 29=d, 30=a, 31=b, 32=c, 33=b, 34=c, 35=a, 36=c, 37=a, 38=d, 39=b, 40=c, 41=d, 42=d, 43=a, 44=c, 45=d, 46=b, 47=b, 48=b, 49=d, 50=b

GYNAECOLOGY-II

1. Endometrial cups act as a source of:
   a) hcG b) FSH c) ecG d) Placental Lactogen
2. Glycoprotein hormones particularly FSH has a carbohydrate moiety which contributes to its relatively long biological half life period. The carbohydrate moiety is:
   a) Glycolic acid b) Mycolic acid c) Sialic acid d) Chitin
3. Bulbourethral gland is anatomically highly prominent in:
   a) Bull b) Stallion c) Ram d) Boar
4. How much time it will take for an abnormal spermatozoa to appear in semen picture after a testicular insult in bull:
   a) 30-35 days b) 50-55 days c) 70-75 days d) 60-65 days
5. In foot-nape posture, the characteristic feature is:
   a) Downward deviation of head b) upward deviation of head
   c) Upward deviation of forelimbs & downward deviation of head
   d) Upward deviation of forelimbs
6. The drug of choice in fetal mummification is:
   a) Buserelin b) ecG c) Cloprostenol d) Clomiphene
7. The predominant source of seminal sugar is:
   a) Epididymis b) Seminal vesicle c) Bulbourethral gland d) Prostate
8. Which of the following is a temporary endocrine structure:
   a) Endometrial cups b) Corpus luteum c) Dominant follicle
   d) None of these e) All of these
9. Approximately when does ovulation occurs after LH surge in cow:
   a) 20 hours b) 40 hours c) 30 hours d) 10 hours
10. Which of the following holds true for sperm hypermotility:
    a) Hypermotility makes a sperm to free itself from the uterotubal reservoir
    b) It makes the sperm to move in all directions in order to catch the ova
    c) It is triggered by the entry of more calcium via catsper Chanels
    d) All of the above
    e) None of the above
11. Uterine torsion is most common in buffaloes because of their:
    a) Heavy bodyweight b) Habit of wallowing
    c) Weak intercornual ligament musculature d) both b&c e) both a&b
12. The number of times LH surge may occur in a cow when subjected to Ovsynch ovulation synchronization protocol:
    a) 4-5 b) 3-4 c) 2-3 d) 1
13. When a follicle for the first time shifts its dependency from FSH to LH, it becomes:
    a) Atretic b) Selected c) Emerged d) deviated
14. Which of the following is a gonadotropin of placental origin :
    a) FSH b) Placental Lactogen c) ecG d) LH
15. Logically maternal recognition of pregnancy should happen:
    a) Before the initiation of luteolytic cascade
    b) At the time of initiation of luteolytic cascade
    c) After the initiation of luteolytic cascade
    d) At the time of Zygote formation

16. Which of the following estrous induction protocol is not effective during off season in seasonal breeders:
    a) Ov synch b) Co synch c) Two shot PGF protocol d) Presynch Ovsynch

17. The most effective drug combination for induction of parturition in an emergency in cow is:
    a) Dexamethasone+ Oxytocin
    b) Dexamethasone+$PGF_2\alpha$
    c) Oxytocin+Epidosin
    d) Dexamethasone + progesterone
18. Pizzle rot in rams refers to:
    a) Inflammation of penis b) Inflammation of Seminal vesicle
    c) Inflammation of glans penis & prepuce d) Inflammation of urethral process
19. Antimullerian hormone concentration in blood is the best indicator of:
    a) Sertoli cell number in a male b) Preantral follicular pool in a female
    c) Both a & b d) None of the these
20. Impotentia generandi in bull refers to:
    a) Inability to copulate largely due to mounting disability
    b) Inability of the penis to retract back in to prepuce
    c) Inability to protrude penis d) Inability to impregnate a cow
21. Early pregnancy factor (EPF) secreted from the trophoblast acts as:
    a) A defense against immune rejection by the mother
    b) An antibacterial agent c) An antiviral agent
    d) Helps in maternal recognition of pregnancy
22. which of the following type of motility a spermatozoa will exhibit if some of its outer dense fibers are missing in the principle piece:
    a) Serpentine b) Progressive c) Circular d) Pendular
23. If the position of a bovine fetus is abnormal then which of the following obstetrical procedure will you adopt in correcting the position :
    a) Mutation b) Version c) Rotation d) Retropulsion
24. Maternal recognition of pregnancy (MRP) in bovines can occur between:
    a) 12-14 days after conception b) 14-17 days after conception
    c) 18-21 days after conception d) post 21 days after conception
25. Per rectal examination is done in sitting position in:
    a) Sow b) Cow c) Camel d) Mare
26. Dog sitting posture in cow refers to:
    a) AP, Dorso iliosacral position with hind limbs extended beneath the body
    b) PP, lumbo iliosacral position with fore limbs extended beneath the body
    c) AP, Dorso pubic position with fore limbs extended beneath the body
    d) PP, lumbo sacral position with hind limbs extended beneath the body
27. The purpose of sperm capacitation is to:
    a) Stabilize the sperm plasma membrane to allow fertilization
    b) Separate cumulus cells to gain access to the oocyte
    c) Destabilize the sperm plasma membrane to allow the acrosome reaction to happen
    d) Allow the cortical reaction to happen for fertilization
28. Prolactin is a major luteotrophic hormone in:
    a) Bovine b) Swine c) Canine d) Equine

29. Which of the following can be effectively used for accelerated delivery in polytoccous species:
    a) Clenbuterol b) Cloprostenol c) Adrenaline d) Carazolol
30. The most important function of cortical reaction is to:
    a) Block polyspermy b) Attract spermatozoa
    c) Block fertilization d) release acrosomal enzymes
31. The predominant sperm reservoir in mare gets established in:
    a) Uterus b) Cervical crypts c) Uterotubal junction d) all of these
32. In almost all farm animal species, the ova remains fertilizable for a period of:
    a) 24-48 hours b) 60-70 hours c) 12-24 hours d) 30-50 hours
33. Uterus bipartitus is present in:
    a) Cow & ewe b) Doe & Sow c) Mare & Sow d) Bitch & Mare
34. A term given to decreased sperm motility is:
    a) Hypospermia b) Aspermia c) Necrozoospermia d) Asthenozoospermia
35. First embryo transfer was carried out by:
    a) Walter Heape in rat b) Walter Heape in rabbit c) Willet et al. in cattle
    d) Nicholas in rat
36. A Pressure sensitive heat mount detector used for estrus detection in cattle is:
    a) Bovinose b) Pedometer c) KaMaR d) All of these
37. Which of the following holds true about bovine placentation:
    a) Diffuse, Epitheliochorial & Adeciduate
    b) Cotyledonary, Syndesmochorial & Deciduate
    c) Microcotyledonary, Syndesmochorial &Adeciduate
    d) Cotyledonary, Syndesmochorial & Adeciduate
38. Removal of seminal plasma by centrifugation is a necessary step before cryopreservation of:
    a) Boar semen b) Bull semen c) Canine semen d) Buck semen
39. The most common cause of dystocia in bitch is:
    a) Uterine torsion b) Fetopelvic disproportion c) Uterine inertia
    d) Ring womb
40. The drug of choice for transmissible venereal tumor (TVT) in bitch is:
    a) Vincristine IM b) Cabergoline IV c) Vincristine IV d) Epostane IM
41. Duration of estrus period in bitch is:
    a) 3 days b) 5 days c) 9 days d) 11 days
42. Which of the following contains high concentration of Sialomucin for producing plug in the vagina to prevent retrograde loss of semen :
    a) Boar semen b) Bull semen c) Ram semen d) Horse semen
43. Egg yolk based extenders are now slowly being replaced by plant based extenders mainly to:
    a) Improve the quality of semen b) Prevent transmission of diseases
    c) Reduce damage at thawing d) None of these
44. Ova is ovulated as secondary oocyte except in :
    a) Sow b) Cow c) Bitch d) Ewe
45. The drug of choice for termination of unwanted pregnancy in bitch is:
    a) Epostane b) Bromocriptine c) Carazolol d) Mifepristone
46. Serum P_4 estimation has 100% accuracy for diagnosing:

a) Pregnancy b) Non-pregnancy c) Early embryonic death d) All of these

47. The only accessory sex gland present in the dog is:
    a) Bulbourethral b) Seminal vesicle c) Prostate d) Ampulla
48. The normal concentration of spermatozoa in canine semen is:
    a) 800-1200 million/ml b) 2000-4000 million/ml
    c) 100-700 million/ml d) 200-300 million/ml
49. Which of the following is true for bovine genital campylobacteriosis:
    a) The organism causes abortion by interfering with fertilization
    b) It causes a tissue reaction in the uterus which is inimical to nidation process
    c) It causes early embryonic death d) All of these e) both b & c
50. Bovine brucellosis causes abortion :
    a) After 4 months of gestation b) After 2 months of gestation
    c) Before 40 days of gestation d) After 40 days of gestation

KEY

Question No.	Answer	Question No.	Answer
1.	c	26.	a
2.	c	27.	c
3.	d	28.	c
4.	c	29.	d
5.	c	30.	a
6.	c	31.	c
7.	b	32.	c
8.	e	33.	a
9.	c	34.	d
10.	d	35.	b
11.	d	36.	c
12.	c	37.	d
13.	b	38.	d
14.	c	39.	c
15.	a	40.	c
16.	c	41.	c
17.	b	42.	a
18.	c	43.	b
19.	c	44.	c
20.	d	45.	d
21.	a	46.	b
22.	c	47.	c
23.	c	48.	c

24.	b	49.	e
25.	c	50.	a

GYNAECOLOGY-III

1. Which of the following holds true about bovine placentation:
   A) Diffuse, Epitheliochorial & Adeciduate
   B) Cotyledonary, Syndesmochorial & Deciduate
   C) Microcotyledonary, Syndesmochorial &Adeciduate
   D) Cotyledonary, Syndesmochorial & Adeciduate

2. Cervix is poorly defined in:
   A) Mare B) Cow
   C) Goat D) Bitch

3. Split heat is a characteristic of:
   A) Bitch B) Sow
   C) Queen D) Ewe

4. In which of the following species the degeneration of unfertilized oocytes occurs in the oviduct:
   A) Cow B) Mare
   C) Goat D) Bitch

5. The drug of choice for the treatment of hydrallontois in cow is:
   A) Dexamethasone B) $PGF_{2\alpha}$
   C) Oxytocin D) Epidosin

6. Preovulatory luteinization of follicles is observed in following species:
   A) Bitch B) Sow
   C) Queen D) Ewe

7. In Boar, seminal vesicles produces which of the following substance that acts as chief osmotic pressure regulator in semen:
   A) Ergothionine B) Inositol
   C) Citrate D) Fructose

8. Which of the following gland is source of anti-agglutinin in the semen:
   A) Seminal vesicles B) Prostate gland
   C) Cowper's gland D) Ampulla

9. Glyceryl phosphoryl choline is a characteristic feature of:
   A) Boar epididymis B) Stallion epididymis
   C) Ram epididymis D) Bull epididymis

10. Extender that can preserve semen at room temperature is:
   A) Millovanos dilutor B) Coconut milk extender
   C) Cornell University extender D) All the above

KEY

Question No.	Answer
1.	D
2.	D
3.	A
4.	B
5.	A
6.	A
7.	B
8.	B
9.	C
10.	D

GYNAECOLOGY-IV

1. Freemartinism in new born heifer calf will not develop if male embryo dies
   A) Before day 40 B) Before day 60 C) Before day 30 D) Before day 50
2. The PSP test for assessing patency of uterine tubes in cow should be carried out during _____phase of estrous cycle to eliminate false negatives
   A) Estrous B) Metestrous C) Anestrous D) Diestrous
3. Fibrous sheath is a characteristic feature of
   A) Head B) Neck C) Mid-piece D) Principal piece
4. Prostaglandins are mainly contributed to the semen by
   A) Bulbourethral glands B) Ampullae C) Seminal vesicle D) Prostate gland
5. A drug that can be used for delaying parturition is a
   A) β-receptor agonist B) β- receptor antagonist
   C) α & β-receptor antagonist D) an ecbolic
6. Feed forward loop mechanism is associated with
   A) GnRH B) Estrogen C) Relaxin D) Oxytocin
7. Which obstetrical procedure should be adopted if the head of a maldispositioned dead fetus is hanging at vulva
   A) Forced traction B) Fetotomy C) Caesarean D) Version
8. The fertile life span of spermatozoa in female reproductive tract of mare is
   A) 12-24 hours B) 6-8 days C) 24-48 hours D) 6-8 hours
9. Which species is least susceptible to uterine torsion
   A) Buffalo B) Cow C) Mare D) Doe
10. Blastocyst elongation does **Not** occur in
    A) Sow B) Mare C) Cow D) Bitch

Key

1- C	6-D
2- D	7-B
3- D	8-D
4- C	9-C
5- A	10-B

LIVESTOCK PRODUCTION & MANAGEMENT

1. **Chemical used for dehorning by chemical method is:**
   - **a.** Caustic potash
   - **b.** Hydrochloric acid
   - **c.** Formaldehyde
   - **d.** Potassium permanganate

2. **Cattle and buffaloes are generally called aged beyond the age of:**
   - **a.** 5 years
   - **b.** 8 years
   - **c.** 15 years
   - **d.** 20 years

3. **Zebu cattle in comparison to most exotic cattle except Jersey has**
   - **a.** Low milk fat and low milk yield
   - **b.** Low milk fat and high milk yield
   - **c.** High milk fat and low milk yield
   - **d.** High milk fat and high milk yield

4. **In all seasons, higher total fat yield can be obtained by:**
   - **a.** Milking once a day
   - **b.** Milking twice a day
   - **c.** Milking thrice a day
   - **d.** Milking frequency has no effect on fat yield

5. **The skin thickness in high yielding cows is:**
   - **a.** Thinner than low yielding cows
   - **b.** Thicker than low yielding cows
   - **c.** Equal in both
   - **d.** Skin thickness has no relation with high yielders

6. **The average speed of a pair of bullock pulling a cart is around:**
   - **a.** 0.5 – 0.8 km/hr
   - **b.** 4 – 5 km/hr
   - **c.** 10 - 15 km/hr
   - **d.** 30 – 32 km/hr

7. **The average draft (weight on neck) developed by bullock varies from:**
   - **a.** $1/5^{th}$ to $1/6^{th}$ of their body weight
   - **b.** 1/2 of their body weight
   - **c.** Equal to their body weight
   - **d.** Twice of their body weight

8. **Average number of cattle that can be transported in an ordinary goods truck equals:**

a. Only 1
b. 5
c. 15
d. 20

9. Most common method of identification used in adult cows is:

- **a.** Tattooing
- **b.** Tagging
- **c.** Ear notching
- **d.** Branding

10. Quarantine period for most of the diseases is:

- **a.** 30 days
- **b.** 24 hrs
- **c.** 3 months
- **d.** 1 year

11. Galvayne's groove in horses appears at the age of:

- **a.** 1 year
- **b.** 5 years
- **c.** 10 years
- **d.** 15 years

12. Method of drying off in high yielders is:

- **a.** Intermittent milking
- **b.** Incomplete milking
- **c.** Reducing extra concentrate
- **d.** All the above

13. Percentage of more livestock in addition to standard that can be accommodated in each loose house without unduly affecting their performance is:

- **a.** 0 %
- **b.** 10 – 15 %
- **c.** 50 – 55%
- **d.** 100%

14. Arrangement of buildings on a livestock farm should preferably in the shape of letters:

- **a.** E, U, L, C or F
- **b.** A, E, I, O or U
- **c.** A, B, C, D or E
- **d.** U, V, W, X or Y

15. One hectare of land is sufficient to produce fodder for how many adult cows:

- **a.** 1
- **b.** 10
- **c.** 25
- **d.** 100

16. Covered space requirement for a farrowing sow is:

- **a.** 7 – 9 m^2

b. 0.9 – 1.9 m^2
c. 1.8 – 2.7 m^2
d. 8.8 – 12.0 m^2

17. Covered space requirement for ram/buck is:
a. 2.3 m^2
b. 3.4 m^2
c. 4.5 m^2
d. 5.6 m^2

18. During hot season animals consume _____ % more water than during winter months:
a. 5 %
b. 25 %
c. 50%
d. 100%

19. Which species is more prone to exhibit silent heat:
a. Cow
b. Sheep
c. Goat
d. Buffalo

20. Antlers are absent in:
a. Antelopes
b. Sambar
c. Musk deer
d. Cheetal

21. Gall bladder is absent in which of the following wild animal:
a. Muntjak
b. Indian Chevrotan
c. Swamp deer
d. Musk deer

22. Horns are absent in which of the following:
a. Chiru
b. Hangul
c. Black Buck
d. Indian Gazelle

23. Wildlife (Protection) Act was framed in the year:
a. 1959
b. 1960
c. 1972

d. 1990

24. First National Park of this subcontinent is:

a. Corbett National Park
b. Sunderbans National Park
c. Kaziranga National Park
d. Keibul Lamjao National Park

25. Bears belong to the family:

- **a.** Simiidae
- **b.** Mustelidae
- **c.** Ursidae
- **d.** Viverridae

26. Tusk in elephants is:

- **a.** Overgrown upper incisor teeth
- **b.** Overgrown upper canine teeth
- **c.** Overgrown upper molars
- **d.** None of the above

27. Largest Asiatic deer is:

- **a.** Spotted deer
- **b.** Black Buck
- **c.** Hog deer
- **d.** Sambar

28. The Central Zoo Authority was constituted in the year:

- **a.** 1972
- **b.** 1988
- **c.** 1992
- **d.** 2000

29. For the production of 1 kg of milk DM requirement in cow is:

- **a.** 0.5 kg
- **b.** 1 kg
- **c.** 2.5 kg
- **d.** 5 kg

30. An adult cow produces _____ liters of liquid manure per year:

- **a.** 45
- **b.** 450
- **c.** 4500
- **d.** 45000

31. Jamaica Hope is cross between:

- **a.** Gir and Kankrej
- **b.** Jersey and Sahiwal
- **c.** Jersey and Holstein Friesian
- **d.** Gir and Sahiwal

32. Best method of milking high yielders is:

- **a.** Stripping
- **b.** Knuckling

c. Full hand milking
d. All are best

33. Milk fat and SNF content of standardized milk is:

- **a.** 3 % fat and 8.5 % SNF
- **b.** 4.5 % fat and 9 % SNF
- **c.** 3.5 % fat and 8.5 % SNF
- **d.** 4.5 % fat and 8.5 % SNF

34. Breed with the highest fat content

- **a.** Jersey
- **b.** Bhadawari
- **c.** Murrah
- **d.** Jafarabadi

35. Best broiler breed of poultry is:

- **a.** White leghorn
- **b.** Minorca
- **c.** Plymoth rock
- **d.** Cornish

36. Japanese Quail belongs to the family:

- **a.** Meleagridae
- **b.** Anatidae
- **c.** Phasinidae
- **d.** Columbidae

37. Chromosome number (2n) in chicken is:

- **a.** 80
- **b.** 78
- **c.** 70
- **d.** 87

38. Amongst the breeds of English white coloured eggs are laid only by:

- **a.** Cornish
- **b.** Australorp
- **c.** Sussex
- **d.** Dorking

39. Type of comb present in Dorking is:

- **a.** Pea
- **b.** Single
- **c.** Rose
- **d.** Walnut

40. Artificial insemination is most common in:

- **a.** Chicken
- **b.** Duck

c. Turkey
d. Quail

41. Incubation period of a chicken egg is:

- **a.** 18 days
- **b.** 21 days
- **c.** 24 hours
- **d.** 28 days

42. Which one of the following species belong to the category of long day breeders:

- **a.** Horse
- **b.** Sheep
- **c.** Goat
- **d.** Deer

43. Vice in which a horse sets it upper incisor against an object, arches its neck, pulls backwards and swallows large quantities of air is known as:

- **a.** Bolting
- **b.** Pawing
- **c.** Cribbing
- **d.** Weaving

44. Oldest equine stud farm started by Tipu Sultan is:

- **a.** Kunigal Stud Farm, Karnataka
- **b.** Sohna Stud Farm, Gurgaon
- **c.** Nanoli Stud Farm, Pune
- **d.** Poonawalla Stud Farm, Mumbai

45. Flat horse race run on a grass surface is known as:

- **a.** Stakes race
- **b.** Turf race
- **c.** Steeplechase
- **d.** Amateur race

46. A rapid two beat diagonal gait is:

- **a.** Walk
- **b.** Canter
- **c.** Trot
- **d.** Gallop

47. Mating action in swine is known as:

- **a.** Coupling
- **b.** Covering
- **c.** Serving
- **d.** Farrowing

48. Minnesota No. 1 is a cross between:

- **a.** Tamworth and Yorkshire
- **b.** Berkshire and Landrace

c. Tamworth and Landrace
d. Berkshire and Yorkshire

49. Breed known as Merino of India is:

- **a.** Nellore
- **b.** Marwari
- **c.** Nilgiri
- **d.** Chokla

50. Draught capacity of Horse is:

- **a.** 1 HP
- **b.** 100 HP
- **c.** 10 HP
- **d.** 0.1 HP

51. Economic goods posses:

- **a.** Value in use
- **b.** Value in exchange
- **c.** Both
- **d.** None

52. Amount of money for which an article is exchanged is known as its:

- **a.** Price
- **b.** Value
- **c.** Cost
- **d.** Worth

53. Value in exchange for free goods is:

- **a.** -1
- **b.** 0
- **c.** +1
- **d.** ½

54. Increase in output with the added quantity of input is referred to as:

- **a.** Total product
- **b.** Average product
- **c.** Marginal product
- **d.** None of the above

55. Returns will be highest when:

- **a.** Marginal cost = marginal returns
- **b.** Marginal cost > marginal returns
- **c.** Marginal cost < marginal returns
- **d.** All the above

56. Wool production is highest in:

- **a.** India
- **b.** Russia

c. U.S.A.
d. Australia

57. Ram lamb after first shearing is known as:

- **a.** Crone
- **b.** Dinmonts
- **c.** Hoggets
- **d.** Cling

58. A broad white marking down the face, extending over the nose in horses is known as:

- **a.** Snip
- **b.** Star
- **c.** Stripe
- **d.** Blaze

59. Gestation period of mice is:

- **a.** 45 days
- **b.** 21 days
- **c.** 18 days
- **d.** 30 days

60. Which animal species is known as poor man's cow:

- **a.** Yak
- **b.** Goat
- **c.** Sheep
- **d.** Buffalo

61. Hurtle is a group of:

- **a.** Sheep
- **b.** Goats
- **c.** Pigs
- **d.** Horses

62. Specie with highest respiration rate amongst the following:

- **a.** Dog
- **b.** Camel
- **c.** Sheep
- **d.** Fowl

63. Percentage of milk contributed by buffalo in India is:

- **a.** 32 %
- **b.** 54%
- **c.** 65%
- **d.** 87%

64. 0033/4033 is a permanent dental formula of:

- **a.** Horse
- **b.** Camel

c. Goat
d. Dog

65. Number of niddle teeth present in pigs are:

- **a.** 2 pairs
- **b.** 4 pairs
- **c.** 6 pairs
- **d.** 8 pairs

66. Shearing of locks of wool and dirt from dock region is known as:

- **a.** Tagging
- **b.** Eyeing
- **c.** Crutching
- **d.** Ringing

67. Joria is produced by:

- **a.** Kathiawari
- **b.** Bhakarwal
- **c.** Angora
- **d.** None

68. Yolk, suint and foreign matter together is called as:

- **a.** Wool yolk
- **b.** Wool fat
- **c.** Foreign material
- **d.** Shrinkage

69. In India highest wool producing state is:

- **a.** West Bengal
- **b.** Andhra Pradesh
- **c.** Madhya Pardesh
- **d.** Rajasthan

70. Which is known as Jersey of goat breeds:

- **a.** Nubian
- **b.** Saanen
- **c.** Marwari
- **d.** Chigu

71. Dry matter intake /kg edible meat is minimum in:

- **a.** Jamunapari
- **b.** Barbari
- **c.** Black Bengal
- **d.** Beetal

72. Which country ranks first in swine population:

- **a.** India
- **b.** Russia

c. China
d. U.S.A.

73. In Dromedary camel, Poll gland is present in:

- **a.** Males
- **b.** Females
- **c.** Both
- **d.** None

74. The ability of an animal to maintain its body temperature within normal limits in a hot environment without suffering serious ill-effects is:

- **a.** Adaptation
- **b.** Heat tolerance
- **c.** Acclimation
- **d.** Homeothermy

75. Drink water's gag is used in:

- **a.** Cattle
- **b.** Horse
- **c.** Dog
- **d.** Pig

76. Muzzle twitch is a common restraint applied in:

- **a.** Cattle
- **b.** Pig
- **c.** Sheep
- **d.** Horse

77. The Buffalo breed which contributed more in Operation Flood is:

- **a.** Murrah
- **b.** Surti
- **c.** Nagpuri
- **d.** Toda

78. Calf mortality is more in village conditions in:

- **a.** Cross bred calf
- **b.** Buffalo calf
- **c.** Indigenous calf
- **d.** Graded calf

79. Culling percentage in an ideal sheep farm:

- **a.** 10 – 20 %
- **b.** 1 – 5 %
- **c.** 30 – 45 %
- **d.** 50 – 55 %

80. Special feeding before and during breeding is known as:

- **a.** Challenge feeding
- **b.** Creeping

c. Flushing
d. None of the above

81. The following animal is best convertor of poor quality roughage:

- **a.** Jersey
- **b.** Surti
- **c.** Gir
- **d.** Tharparkar

82. Ponies have a height of:

- **a.** More than 142 cm
- **b.** Less than 142 cm
- **c.** Less than 14.2 hands
- **d.** More than 14.2 hands

83. The period of attaining peak yield in lactation:

- **a.** 10 -15 days
- **b.** 45 – 60 days
- **c.** 70 – 80 days
- **d.** 3 -4 months

84. Location of Indian Grassland and Fodder Research Institute:

- **a.** Jhansi
- **b.** Calcutta
- **c.** Pusa
- **d.** Bareilly

85. The minimum interval between two successive milkings:

- **a.** 6 hours
- **b.** 12 hours
- **c.** 18 hours
- **d.** 20 hours

86. Trot in horses is a:

- **a.** One beat gait
- **b.** Two beat gait
- **c.** Three beat gait
- **d.** Four beat gait

87. Exotic mutton breed of sheep:

- **a.** Merina
- **b.** Suffolk
- **c.** Polworth
- **d.** Rambouillet

88. Instrument to measure the wind velocity:

- **a.** Pedometer
- **b.** Anemometer
- **c.** Barometer

d. Speedometer

89. Corner incisor teeth of pigs:

a. Canine teeth
b. Niddle teeth
c. Molar teeth
d. Wolf teeth

90. The method not used for water purification:

a. Aeration
b. Aggulitination
c. Chlorination
d. Ozonization

91. On 18th day candling of chicken eggs, live embryos appear as:

a. Translucent
b. Transparent
c. Spiderlike
d. Opaque

92. The capacity of cow to maintain high yields for a longer period is known as:

a. Resistance
b. Peak yield
c. High yield
d. Persistence

93. Haugh unit measures:

a. Shape index of eggs
b. Quality of yolk
c. Quality of albumin
d. Strength of egg

94. The aeration is the method of purification of:

a. Water
b. Air
c. Oxygen
d. Sand

95. System of grazing of livestock is:

a. Rotational
b. Deffered
c. Hohenheim
d. All the above

96. Feed cost constitute about ____ % of the total cost of producing milk:

a. 10 %
b. 30 %
c. 60 %

d. 90%

97. Under good feeding conditions, a calf attains puberty approximately at:

- **a.** 22 % of adult body size
- **b.** 66 % of adult body size
- **c.** 88 % of adult body size
- **d.** 99 % of adult body size

98. Calf mortality is relatively high during:

- **a.** First 3 months of age
- **b.** 6 – 7 months of age
- **c.** 7 - 8 months of age
- **d.** After 8 months of age

99. Maximum hours of work/day for farm labour is:

- **a.** 6 hours
- **b.** 7 hours
- **c.** 8 hours
- **d.** 9 hours

100. Temperature Humidity Index above 80 indicates:

- **a.** Comfort
- **b.** Mild stress
- **c.** Extreme stress
- **d.** None of the above

KEY

Q. No	Answer	Q. No	Answer	Q. No	Answer	Q. No	Answer
1	A	26	A	51	C	76	D
2	B	27	D	52	A	77	A
3	C	28	C	53	B	78	B
4	C	29	C	54	C	79	A
5	A	30	C	55	A	80	C
6	B	31	B	56	D	81	B
7	A	32	C	57	B	82	C
8	B	33	D	58	D	83	B
9	D	34	B	59	B	84	A
10	A	35	D	60	B	85	A
11	C	36	C	61	A	86	B
12	D	37	B	62	D	87	B
13	B	38	D	63	B	88	B
14	A	39	A	64	C	89	D
15	B	40	C	65	B	90	B
16	A	41	B	66	A	91	D
17	B	42	A	67	A	92	D
18	B	43	C	68	D	93	C
19	D	44	A	69	B	94	A
20	A	45	B	70	A	95	D
21	D	46	C	71	B	96	C
22	B	47	A	72	C	97	B
23	C	48	C	73	C	98	A
24	A	49	D	74	B	99	C
25	C	50	A	75	A	100	C

LPM-II

1. **Covered space requirement of Buffaloes is _____ meter square**
   A) 5.6 **B) 3.0**
   C) 2.5 **D) 4.0**
2. **Bull calf should be separated from female at _____months of age**
   A) 5 **B) 9**
   C) 8 **D) 6**
3. **In Indian Dairy industry buffaloes contribute over _____% to the total milk production**
   A) 55 **B) 25**
   C) 35 **D) 45**
4. **Length of water troughs should be _____ % less than that of feed manger length.**
   A) 5 **B) 7**
   C) 10 **D) 2**
5. **Average birth weight in Indian cattle breeds ranges from _____ kg.**
   A) 13 to1 5 **B) 40 to 4 5**
   C) 18 to 23 **D) None**
6. **Cow normally will not secrete daily milk yield more than _____ % of their body weight.**
   A) 3 to 5 **B) 6 to 7**
   C) 8 to 10 **D) 4 to 5**
7. **One hectare of land is sufficient to produce fodder for _____ adult units.**
   A) 10 **B) 8**
   C) 5 **D) 6**
8. **Bull should be ringed at age of _____ year.**
   A) 2 **B) 1**
   C) 1.5 **D) 2.5**
9. **Draught power of bullock_____ HP.**
   A) 0.74 **B) 0.84**
   C) 0.54 **D) 0.25**
10. **Central Institute for Research on Cattle is situated at _____ state of India.**
    A) Gujarat **B) Punjab**
    C) Tamil NaduD) Uttar Pradesh

Key:

1. 4.0 meter square
2. Six month
3. 55 %
4. 10 %
5. 18 to 23 kg
6. 8 to 10 %
7. 10
8. 1 year
9. 0.74 HP
10. Uttar Pradesh

LPM-III

1. Kulan and Kiang (wild asses) are respectively found in:
   a) Chanthang and Rann of Katch b) Rann of Katch and Changthang
   c) Girr forests and Changthang d) Changthang and Girr forests
2. The highest fecundity is observed in which sheep breed:
   a) Deccani sheep b) Malpura sheep
   c) Garrole sheep d) Malvi sheep
3. Which of the following yields Pashmina?
   a) Chanthangi sheep b) Cheegu goat
   c) Pashmina goat d) both b & c
4. Which of the following horses is best suited for polo sports:
   a) Manipuri horse b) Marwari horse
   c) Zanskari horse d) Spiti horse
5. Smallest cattle breed is:
   a) Vechurr b) Amritmahal
   c) Krishna Valley d) Khillari
6. Which of the following breed of buffalo is called Black Gold:
   a) Murrah b) Mehsana
   c) Surti d) Nali ravi
7. The term warm blooded horses generally refers to:
   a) Europian Horses b) African horses
   c) American horses d) Arabian horses
8. Buffalo accounts ……. of milk production in India:
   a) More than 50 % b) More than 60 %
   c) More than 40 % d) More than 30 %
9. Pig cooperatives are more promising in which region:
   a) Southern region b) Northwestern region
   c) Northeastern region d) Western region
10. Fine wool breeds are generally found in which region
   a) Southern region b) Northern temperate region
   c) Western region d) Eastern region

Key:

1. b
2. c
3. d
4. a
5. a
6. a
7. d
8. a
9. c
10. b

LPT

1. The red viscera includes
a) liver B) heart c) kidney d) all of the above

2. Edible byproducts have
a) higher glycogen content b) lesser fat covering c) none of the above d) both of the above

3. Pigs' feet are also known as
a) botters b) trotters c) sotters d) none of the above

4. Pinholes in leather are caused by
a) *Melophagus ovinus* b) *Hypoderma bovis* c) both d) none

5. Blood meal is deficient in
a) tryptophan and lysine b) lysine and methionine c) tryptophan and isoleucine d) tryptophan and leucine

6. Mechanically separated meat contains
a) 98% of bone particles less than 0.5 mm b) minimum calcium of 0.75% c) both of the above d) none of the above

7. The best method of preserving most glands to retard autolysis and destructive bacterial growth is
a) chilling b) quick freezing c) chemical treatment d) keep as such

8. Ovarian and testes preparations are often not defatted because
a) active principles are fat soluble b) active principles are water soluble c) they are difficult to get defatted d) none of the above

9. Glycosaminoglycans include
a) hyaluronic acid b) chondroitin sulfate c) heparin d) all of the above

10. Properties of an efficient detergent are
a) remove soil from surfaces b) capacity to effect minimum suspension of soil c) both of the above d) none of the above

11. The principle halogen used for sanitization of water and treatment of sewage is
a) fluorine b) chlorine c) iodine d) none of the above

12. BOD of slaughter houses is
a) 1000-1500 mg/L b) 1500-2000 mg/L c) 2000-2500 mg/L d) 2500-3000 mg/L

13. Myosin and actin are contractile proteins found in
a) muscle b) spermatozoa c) both of the above c) none of the above

14. the respective proportion (percent) of myofibrliiar, sarcoplasmic and stroma proteins in muscle is
a) 40, 40 and 20 b) 20, 30 and 30 c) 60, 20 and 20 d) 80, 10 and 10

15. Ricocheting is associated with which of the following stunning methods
a) free bullet stunning b) gas stunning c) electrical stunning d) none of the above

16. *Cysticercus bovis* is the intermediate stage of which worm
a) *Taenia saginata* b) *Taenia solium* c) both c) none

17. The lean muscle, the contribution of phospholipids is
a) 0-0.2% b) 0.5-1% c)1-1.5% d) 1.5-2%

18. The oxidative enzymes, favin nuceleotides and various heme pigments are contained in which fraction of meat proteins
a) myofibrillar b) stromal c) sarcoplasmic d) none of the above

19. The only ingredient necessary for curing of meats is
a) Sodium chloride b) sodium nitrite c) sugar d) phosphate

20. Phosphates increase the water holding capacity and thereby yield of the product because they
a) decrease the pH b) unfold muscle proteins, thereby make more sites available for water binding c) both of the above d) none of the above

21. In Maillard reaction, there is development of characteristic brown clour on the surface of smoked products. This reaction starts with the step of
a) aldol condensation b) Amadori rearrangement c) Strecker degradation d) Schiff's base formation

22. Meat products are generally packed in cans that have been lined with
a) acid resistant material b) sulfur resistant material c) both of the above d) none of the above

23. The pink or reddish fluid that comes from meat on thawing is known as
a) drip b) freezer burn c) leakage d) sweat

24. The greening of sausages is caused by which species of bacteria
a) Lactobacilli b) Leuconostoc c) both of the above d) none of the above

25. True putrefaction of meat is actually caused by the anaerobic decomposition of proteins with the production of foul-smelling compounds like
a) hydrogen sulfide b) mercaptans c) indole d) all of the above

26. The benefits associated with preparation of processed meat at elevated pH include
a) improved WHC b) better yield c) both of the above d) none of the above

27. Electrical stimulation has the following effects on the properties of meat

a) it decreases the tenderness b) marbling becomes less visible c) aging period is shortened d) ATP depletion is decelerated

28. The sodium salts of ascorbic acid or erythorbic acid in meat product formulations are most widely used as
a) colour enhancers b) cure accelerators c) antimicrobials d) spices

29. Products that have undergone desinewing and particle size reduction such as sectioning, chunking, slicing, flaking or chopping followed by forming into steaks, roasts or patties are called as
a) restructured meats b) sausages c) emulsion products d) coarse meat products

30. *Trichinosis* can be most easily prevented by cooking pork and products containing pork to internal temperature of at least
a) 38.5^{o}C b) 48.5^{o}C c) 58.5^{o}C d) 68.5^{o}C

31. At what level of nitrite, the formation of botulinum toxin is prevented in canned or vacuum packaged processed meat products
a) 80 ppm b) 92 ppm c) 120 ppm d) 154 ppm

32. Which of the following does not include in the Major Cuts of lamb carcasses
a) Breast b) leg c) sirloin d) loin

33. The yolk comprises what percentage of total egg weight
a) 20-25 b) 30-33 c) 40-47 d) 50-54

34. In normal animals, the ultimate pH reached after conversion of glycogen to lactic acid and CO_2 is in the region of
a) 5.8-6.2 b) 5.0-5.3 c) 6.2-6.4 d) 6.6.6.9

35. Which of the following breeds are more prone to rapid post mortem glycolysis and the production of watery pork
a) Danish Landrace b) Pietran c) Poland China d) All of the above

36. In a meat plant, it is generally recommended that the overall intensity of light should not be less than
a) 540 lux at all inspection points b) 220 lux at all inspection points c) 540 lux in work rooms d) 220 lux in work rooms

37. The most common form of line system used in modern meat plants is
a) Intermittent powered system b) Canpak system c) Gravity rail system d) continuous powered system

38. Freibank system entails the sale of inferior quality meat and meat which requires treatment before sale. The system was legalized in Germany in the year
a) 1889 b) 1899 c) 1879 d) 1989

39. Casualty slaughter is not recommended when
a) animal is in acute pain b) there is immediate danger of death c) post-partum paraplegia d) benign superficial tumours

40. Prior to slaughter stunning is prohibited in which slaughter method
a) Jatka method b) Jewish method c) Scandinavian method d) Humane slaughter

41. The carcass should not be opened if the animal died of
a) fracture b) anthrax c) bloat d) cardiac arrest

42. According to Codex Alimentarius Commission, the recommended maximum residue limit of DDT in carcass fat is
a) 7 mg/kg b) 9 mg/kg c0 11 mg/kg d) 13 mg/kg

43. Marsh-Bendall factor is another name of
a) thaw rigor b) sarcoplasmic reticulum pump c) cold shortening d) rigor mortis

44. double muscling is also known as
a) doppelender condition b) groppa dopia c) culard d) all of the above

45. The formula for calculating specific gravity of milk is
a) 1+(CLR/1000) b) 1+(CLR/100) c) 1+(1000/CLR) d) 1+(100/CLR)

46. In sweetened condensed milk, the cane sugar content should be at least
a) 10% b) 20% c) 30% d) 40%

47. As per PFA rules, the fat percentage in toned milk should be
a) 1% b) 2% c) 3% d) 4%

48. As per PFA rules, the fat percentage in butter should not be less than
a) 50% b) 65% c) 80% d) 95%

49. Hansa test is used to detect adulteration of buffalo milk with
a) goat milk b) cow milk c) camel milk d) none of the above

50. Fat is best separated from milk at a temperature of
a) 15-20 ^{o}C b) 25-30^{o}C c) 35-40^{o}C d) 45-50^{o}C

Key

1.	**d**	**26.**	**c**
2.	**d**	**27.**	**c**
3.	**b**	**28.**	**b**
4.	**b**	**29.**	**a**
5.	**c**	**30.**	**c**
6.	**a**	**31.**	**c**
7.	**b**	**32.**	**a**
8.	**a**	**33.**	**b**

9.	**d**	**34.**	**a**
10.	**a**	**35.**	**d**
11.	**b**	**36.**	**a**
12.	**b**	**37.**	**b**
13.	**c**	**38.**	**c**
14.	**c**	**39.**	**a**
15.	**a**	**40.**	**b**
16.	**a**	**41.**	**b**
17.	**b**	**42.**	**a**
18.	**c**	**43.**	**b**
19.	**a**	**44.**	**d**
20.	**b**	**45.**	**a**
21.	**a**	**46.**	**d**
22.	**b**	**47.**	**c**
23.	**a**	**48.**	**c**
24.	**c**	**49.**	**b**
25.	**d**	**50.**	**c**

MEDICINE-I

Q. No. 1: In Brucellosis abortions occur most commonly in outbreaks in unvaccinated heifers after the 5th month of pregnancy but subsequent pregnancies are carried to term. Which of the following is likely a dead-end host for such disease?

a) Heifer
b) Dog
c) Moose
d) Badger

Q. No. 2: Which of the following is the etiological agent for the disease in ewes "Enzootic Abortion" having epidemiological characteristics like Transmission- ingestion; Time of abortion- last 2-3 weeks, still births, weak lambs; Clinical data- No sickness in ewes, neonatal mortality; Fetus- degenerative changes in placenta:

a) *Chlamydophila abortus*
b) *Brucella abortus*
c) *Campylobacter fetus*
d) *Listeria monocytogenes*

Q. No. 3: Infectious Keratitis/Blight is a disease of cattle of all ages occurring most commonly in summer months & characterized clinically by conjunctivitis, lacrimation, blepharospasm, photophobia and central corneal opacity. The etiology for the said disease is:

a) *Moraxella bovis*
b) *Mycoplasma bovis*
c) *Listeria monocytogenes*
d) *Alcelaphine herpes virus*

Q. No. 4: Which of the following is the essential causal pathogen for infectious foot-rot in sheep?

a) *D. nodosus*
b) *F. necrophorum*
c) *Spirochaeta penortha*
d) *D. congolensis*

Q. No. 5: Listeriosis is primarily a disease of ruminants particularly sheep. Various disease conditions like septicaemia, spinal myelitis, uveitis, gastroenteritis, mastitis, encephalitis, and abortion are associated with *L. monocytogenes*. Which of the following is the major disease(s) associated with it?

a) Encephalitis & Abortion
b) Septicemia & Abortion
c) Encephalitis & Septicemia
d) Mastitis & Spinal Myelitis

Q. No. 6: A common disease in unvaccinated pigs raised outdoors & characterized clinically by sudden onset of acute disease, fever, anorexia, typical diamond-shaped skin lesions; Arthritis and Endocarditis in chronic form:

a) Swine Erysipelas
b) Hog cholera
c) Glasser's disease
d) Salmonellosis

Q. No. 7: Botulism is caused by *C. botulinum*, a spore-forming anaerobe, producing neurotoxins (A-G; disease in farm animals produced primarily by types B, C & D) during vegetative growth. Shaker-foal syndrome, a disease of young foals up to 8 months of age, is an example of:

a) Forage botulism
b) Carrion-associated botulism
c) Wound botulism
d) Toxico-infectious botulism

Q. No. 8: Which of the following is the complication of Equine Distemper?

a) Suppurative Necrotic Bronchopneumonia
b) Bastard Strangles
c) Chondroid formation
d) All of These

Q. No. 9: Which of the following is the causative organism (mostly) for Exudative Epidermitis in suckling & weaned piglets?

A. *S. aureus*
B. *S. hyicus*
C. *D. congolensis*
D. *S. chromogenes*

Q. No. 10: Which of the following is responsible for causing Enzootic Posthitis/Vulvovaginitis in sheep &/or cattle?

a) *C. renale*
b) *Rhodococcus equi*
c) *M. mycoides (Large colony)*
d) All of These

Q. No. 11: Which of the following clinical/disease conditions is associated with Listeriosis in Sheep, Goat & Cattle?

a) Encephalitis
b) Abortion
c) Mastitis
d) All of These

Q. No. 12: The pathogenic strains of the causative organism of which of the following disease have plasmid-encoded virulence factors (capsule encoded by pX02 & a tripartite toxin encoded by pX01):

a) Anthrax
b) Strangles
c) Listeriosis
d) Mycoplasmosis

Q. No. 13: Pregnant mare when given Tetanus Antitoxin (TAT) may die owing to serum hepatitis, the condition is known as:

a) Theiler's disease
b) Tetanus
c) Shaker foal syndrome
d) Equine dysautonomia

Q. No. 14: Braxy/Bradsot, an acute infectious disease of sheep characterized by inflammation of the abomasal wall, toxaemia and a high mortality rate, is associated with:

a) Ingestion of frosted feed stuff

b) *Clostridium septicum*
c) Infusion of acetic acid into abomasum
d) All of These

Q. No. 15: Infectious necrotic hepatitis/Black disease in sheep & cattle is caused by:
a. *Clostridium novyi type B*
b. *Clostridium novyi type C*
c. *Clostridium novyi type A*
d. *Clostridium novyi type D*

Q. No. 16: An acute toxaemia of ruminants associated with the proliferation of *Clostridium perfringens* type D in the intestines & the liberation of epsilon toxin that produces vascular damage & the damage to the nervous system typical of this disease:
a) Pulpy kidney
b) Struck
c) Pine
d) All of These

Q. No. 17: Diarrheic calves are generally hyperkalemic with a high serum anion gap (a measure of "unmeasured anions"), a depressed $NaHCO_3$ and a low blood pH. The Anion Gap (AG) is calculated as:
a) $AG= [Na^+ + K^+] – [Cl^- + HCO_3^-]$
b) $AG= [Na^+ + Cl^-] – [K^+ + HCO_3^-]$
c) $AG= [Na^+ + HCO_3^-] – [K^+ + Cl^-]$
d) $AG= [Na^+ - K^+] – [Cl^- - HCO_3^-]$

Q. No. 18: Which of the following is the web site of OIE?
a) www.oie.int
b) www.oie.info
c) www.oie.nic.in
d) www.oie.org

Q. No. 19: Identify the ovine disease – etiology combination from the following; the said clinical condition is characterized by fever, neurological dysfunction, muscle tremor, incoordination and a characteristic bounding gait:
a) Louping Ill – *flavivirus*
b) Scrapie – Prion
c) Ovine Kangaroo gait – unknown
d) Tick pyaemia – *S. aureus*

Q. No. 20: The transmission method for the disease of goats (Caprine Arthritis Encephalitis) characterized clinically by arthritis especially of the carpal joint (Big knee) in mature goats, and acute leukoencephalomyelitis in young goats:
a) Colostrum & Milk
b) Contact
c) Venereal
d) All of These

Q. No. 21: An infectious but not contagious disease of horses caused by *Neorickettsia risticii* and characterized clinically by fever, depression, anorexia, and diarrhoea with colic & laminitis:
a) Potomac horse fever
b) Equine rickettsiosis

c) Equine monocytic ehrlichiosis
d) All of These

Q. No. 22: In a population of (**1000)** people a screening test was used to identify the (**100)** diseased individuals. The result of the test applied is shown in the table.

Screening Results	**True characteristics in population**		**Total**
	Disease	**No Disease**	
Positive	80	100	**180**
	20	800	**820**
Negative	**100**	**900**	**1000**

The sensitivity of the screening test is:
a) 80 %
b) 88. 89 %
c) 20 %
d) 11.11 %

Q. No. 23: The specificity of the screening test (from the table given in Q. No. 22) is:
a) 20 %
b) 11.11 %
c) 80 %
d) 88.89 %

Q. No. 24: The positive predictive value (PPV) of the screening test (from the table given in Q. No. 22) is:
a) 55.56 %
b) 44.44 %
c) 97.56 %
d) 2.44 %

Q. No. 25: The negative predictive value (NPV) of the screening test (from the table given in Q. No. 22) is:
a) 44.44 %
b) 97.56 %
c) 2.44 %
d) 55.56 %

Q. No. 26: The true prevalence of the disease (established by the screening test in Q. No. 22) is:
a) 10 %
b) 18 %
c) 8 %
d) 2 %

Q. No. 27: In dairy cattle free-gas bloat occurs in which of the following conditions:
a) Listeriosis
b) Tetanus
c) Esophageal choke
d) All of These

Q. No. 28: An acute systemic infectious disease of chicks (<3 weeks age) caused by Group-I (non-motile) *Salmonella spp.* characterized by dead-in-shell chicks or death immediately after hatching and salmonella lump in heart is:

a) Pullorum disease
b) Fowl typhoid
c) Salmonellosis
d) Arizonosis

Q. No. 29: Yeasts and Algae are opportunistic pathogens that may cause mastitis. How are these pathogens similar?

a) Both produce a severe systemic reaction
b) Neither has any effect on milk production
c) Neither is responsive to antibiotic therapy
d) Neither causes any glandular reaction

Q. No. 30: In Strangles affected horses the rupture of retropharyngeal lymph nodes into medial compartment leads to infection into guttural pouches with formation of accretions of inspissated pus known as:

a) Chondroid
b) Keloid
c) Emphysema
d) All of These

Q. No. 31: The type of dehydration (severe) that occurs in calves with acute diarrhea due to enterotoxigenic *E. coli* is:

a) Hypotonic
b) Hypertonic
c) Isotonic
d) Both **b & c**

Q. No. 32: For treating Septicemic Pasteurellosis of cattle the dosage and route of administration of long-acting Oxytetracycline and/or Tilmicosin respectively is:

a) 20 mg/kg BW I/V & 10 mg/kg BW I/V
b) 20 mg/kg BW I/M & 10 mg/kg BW I/M
c) 20 mg/kg BW I/M & 10 mg/kg BW S/C
d) 20 mg/kg BW S/C & 10 mg/kgBW S/C

Q. No. 33: A bacterial disease of horses and cattle caused by *C. pseudotuberculosis* and characterized by formation of nodules in the subcutaneous tissue particularly around the fetlock joint. The disease in question resembles the one caused by *B. mallei* characterized by pulmonary, skin and nasal involvement:

a) Epizootic lymphangitis
b) Sporotrichosis
c) Glanders
d) Ulcerative lymphangitis

Q. No. 34: Actinomycosis is a sub acute to chronic bacterial infection of both cattle & humans characterized by contiguous spread, suppurative & granulomatous inflammation and formation of multiple abscesses and sinus tracts that may discharge sulfur granules. The drug of choice for treating infection caused by *Actinomycetes* is:

a) Na^+ Iodide orally
b) K^+ Iodide intravenously
c) Penicillin-G
d) Both **a & b**

Q. No. 35: While performing California Mastitis Test the reaction observed was "distinct slime formation immediately after mixing the solutions. When the paddle was swirled the fluid formed a peripheral mass and the bottom of the cup got exposed". The test result and the equivalent somatic cell count could be (given that equivalent linear score ranged from 7-8):

a) 2+, 8.0-50.0 lac cells/ml
b) 2+, 4.0 lac cells/ml
c) 3+, 8.0-50.0 lac cells/ml
d) 3+, >50.0 lac cells/ml

Q. No. 36: Which of the following is considered as the "Gold Standard" for mastitis detection?

a) Bromothymol Blue test
b) California Mastitis test
c) Measurement of electrical conductivity
d) Milk Culture test

Q. No. 37: A disease of cattle and/or buffaloes resembling **OIE List-A** disease (caused by *Mycoplasma spp.* belonging to "*Mycoides*" cluster) in its clinical manifestations, and usually only one animal may be affected that too because of indiscriminate feeding habit:

a) Haemorrhagic Septicemia
b) Contagious Bovine Pleuropneumonia
c) Foreign Body Syndrome
d) All of These

Q. No. 38: Disease in which abortion occurs in later part of pregnancy in sheep and goats, and flu-like illness and/or endocarditis and hepatitis occurs in humans. Further, the causative agent of the disease in question has been classified by CDC-USA as Category-B bio-terrorism agent:

a) Coxiellosis
b) Brucellosis
c) Tuberculosis
d) Listeriosis

Q. No. 39: Bacillary White Diarrhea, a septicemic disease affecting mainly chicken or turkey, is not always associated with white diarrhea and is caused by a non-motile *Salmonella* serotype:

a) *S. gallinarum*
b) *S. arizonae*
c) *S. typhimurium*
d) *S. pullorum*

Q. No. 40: Identify the disease of chicken & turkey (adult/growers) from the following signs/lesions:

- Respiratory distress, watery to mucoid yellow diarrhea and swollen friable liver with surface having a characteristic coppery bronze sheen.

a) Pullorum disease
b) Fowl typhoid
c) Paratyphoid Infection
d) All of These

MEDICINE-III

1. Which of the following tests is considered as the standard serological test for diagnosis of Leptospirosis:
   a) ELISA
   b) Dark Field Microscopy
   c) Microscopic Agglutination Test
   d) Haemagglutination Test
2. Blue eye in ICH develops as a result of:
   a) Type I hypersensitivity
   b) Type II hypersensitivity
   c) Type III hypersensitivity
   d) Type IV hypersensitivity
3. In recovered cattle, FMD virus can be isolated from:
   a) Lungs
   b) Serum
   c) Spleen
   d) Pharynx
4. Infectious Bovine Rhinotracheitis leads to:
   a) Ocular infection
   b) Genital Infection
   c) Nervous system involvement
   d) All of these
5. Toxicoinfectious botulism occurs due to which type of *Clostridium botulinim*:
   a) Type A
   b) Type B
   c) Type C
   d) Type D
6. Sample required for Ascoli's test is:
   a) Whole Blood
   b) Serum
   c) Faeces
   d) Tissue
7. Which of the following is not a complication of strangles in horses:
   a) Purpura Haemorrhagica
   b) Bastard Strangles
   c) Guttral Pouch Empyema
   d) Splenic Rupture
8. Marbling is a post mortem finding of:
   a) CBPP
   b) HS
   c) Rinderpest
   d) Anthrax

9. Theiler's Disease is a complication of:
   a) Active Immunization
   b) Passive Immunization
   c) Local antibody application
   d) None of these
10. All clostridial infections have a common feature of:
   a) Long incubation periods
   b) Act by preformed toxins
   c) Effectively controlled by vaccination
   d) Easy to eradicate

KEY:
1-c; 2-c; 3-d; 4-d; 5-b; 6-d; 7-d, 8-a; 9-b; 10-c

Veterinary Medicine III

1. The clinical feature of pleurisy is
   (A) Pleuritic ridge (B) Abdominal respiration
   (C) Shallow respiration (D) All of the above
2. Photosensitization mostly occurs in
   (A) Back (B) Face
   (C) Belly (D) Leg
3. The common urolith in feedlot cattle is
   (A) Oxalate (B) Carbonate
   (C) Phosphate (D) Urate
4. Mature paramphistomes are present in
   (A) Rumen and reticulum (B) omasum
   (C) Abomasum (D) Itestines
5. Drug of choice for tropical theleriosis is
   (A) Berenil (B) Buparvaquinone
   (C) Ivermectin (D) Closental
6. Blue tongue is transmitted by
   (A) Ticks (B) Culicoides
   (C) Lice (D) All of the above
7. Economic and reliable cow side test for diagnosis of subclinical mastitis is
   (A) Californian mastitis test (B) Somatic cell count
   (C) Electrical conductivity of milk (D) Cultural sensitivity test
8. Mycoplasma in goats is not manifested as
   (A) Keratocunjuctivitis (B) Enteritis
   (C) Mastitis (D) Pneumonia
9. Calf hood vaccination is done for prevention of
   (A) Trichomonaiasis (B) Brucellosis
   (C) Theleriasis (D) FMD
10. Which test is done for prediction of metabolic and production diseases
    (A) Compton metabolic profile (B) Urinalysis
    (C) Liver function (D) liver biopsy
11. Best sample for biochemical analysis is
    (A) Blood (B) Serum
    (C) Plasma (D) Centrifuged plasma
12. Ketosis is characterized by
    (A) Hypoglycemia (B) Ketonemia
    (C) Hypocalcemia (D) Both A and B
13. Recent outbreak of swine influenza in India was due to
    (A) H5N1 (B) H5N5
    (C) H1N1 (D) H1N5
14. Blood picture in TRP is
    (A) Leukocytosis and neutrophelia (B) Leukocytosis and Lymphocytosis
    (C) Leukocytosis and lymphopenia (D) Leukocytosis and neutropenia
15. Diaphragmatic hernia most commonly occurs in
    (A) Goat (B) Cow
    (C) Horse (D) Buffalo

16. Surra is invariably fatal, if not treated in
(A) Buffalo (B) Sheep
(C) Horse (D) Cattle
17. In Abomasal torsion and displacement, the most affected electrolyte is
(A) Sodium (B) Bicarbonate
(C) Chloride (D) Potassium
18. The Auscultation of heart in effusive traumatic pericarditis reveals
(A) Systolic murmur (B) Diasystolic murmur
(C) Splashing sounds (D) All of the above
19. In bacterial endocarditis, the important auscultation finding is
(A) Muffled Heart sounds (B) Murmur
(C) Both A and B (D) None
20. In and ECG, QRS complex represents
(A) Atrial depolarization (B) Atrial repolarization
(C) Ventricular depolarization (D) Ventricular repolarization
21. Tall P wave suggests
(A) Atrial fibrillation (B) ventricular enlargement
(C) Atrial enlargement (D) All of the above
22. Prolonged PR interval is suggestive of
(A) Myocardial ischemia (B) Heart block
(C) Atrial enlargement (D) ventricular enlargement
23. The SI unit of MCV is
(A) ml (B) dl
(C) fl (D) mmol
24. *Anaplasma marginale is* present in
(A) RBCs (B) Neutrophils
(C) Monocytes (D) Lymphocytes
25. Which of the following is not used for pimply gut
(A) Ivermectin (B) Piperazine
(C) Phenothiazine (D) Closental
26. Which of the following is not used for treatment of heart diseases
(A) Digioxin (B) KCl
(C) Frusemide (D) none of the above

27. Which of the following is a hypertonic solution for large animals
(A) 0.9% NaCl (B) 5% Sodium bicarbonate
(C) 1.3% Sodium bicarbonate (D) Lactated Ringers solution
28. Which is the best clinical examination parameter to locate cause of colic in equines
(A) Ausculataion (B) Radiography
(C) Per rectal examination (D) Abdominocentesis
29. Scabies is caused by
(A) Demodex (B) Psorptes
(C) Dermatophytes (D) Sarcoptes
30. The SApecific gravity of urine in most animal species is
(A) 1.015-1.035 (B) 1.02-1.024
(C) 1.032-1.064 (D) 1.024-1.036

31. Pandy's Test is done for qualitative estimation of ----------in CSF
(A) Glucose (B) Cell count
(C) Protein (D) Sodium
32. If a dog micturates in standing position, it is suggestive of
(A) Cystitis (B) Urolithiasis
(C) Spinal cord Injury (D) Nephritis
33. Which of the following is not a liver function test
(A) AST (B) Liver Biopsy
(C) Bilirubin (D) Bromosufophthaline dye test
34. Which of the following diseases causes enamel hypoplasia in cattle
(A) HS (B) MCF
(C) FMD (D) BVD
35. Reaction of blood is
(A) Acidic (B) Neutral
(C) Alkaline (D) None of the above
36. Normal intra ocular pressure in dog is
(A) 15-25 mmHg (B) 14-26 mmHg
(C) 14-22 mmHg (D) 20-30 mmHg
37. Menace response test is used for evaluation of _____cranial nerve
(A) VI (B) VII
(C) I (D) III
38. Wide based stance is common in
(A) Spinal cord diseases (B) Peripheral neuropathy
(C) Cerebellar diseases (D) Head injury
39. Proprioception in hind limbs of horse is assessed by
(A) Crossing the hind limbs (B) Forcing the horse to adopt base wide stance
(C) Flex the foot so that dorsal surface is on floor (D) All of the above

40. The Headquarter of Animal Welfare Board of India is located at
(A) Chennai (B) Delhi (C) Mumbai (D) Hyderabad
41. Palpation is aimed to determine_____of a lesion or organ.
(A) Size and Consistency (B) Temperature
(C) Sensitivity (D) All of the above
42. In LDA ruminal movements are.
(A) Absent (B) Decreased in frequency
(C) Decreased in intensity (D) Both B and C
43. The most common complication of LDA is
(A) Fatty liver (B) Mastitis (C) Ketosis (D) Lactic acidosis
44. The value of normal ruminal chloride concentration is
(A) 40mEq/L (B) 35mEq/L (C) 30mEq/L (D) <30mEq/L
45. Bilateral abdominal distension in cattle occurs in
(A) Peritonitis (B) Intestinal obstruction (C) Both A and B (D) None of the above
46. Right sided abdominal ping occurs in
(A) Pneumorectum (B) Caecal dilatation (C) Pneumoperitonium (D) All of the above
47. The maximum punishment power of Judicial magistrate (1st Class) is
(A) Maximum sentence of two years (B) Fine upto Rs. 5000/- (C) Both A and B

(D) Maximum sentence of 3 years and/ fine upto 5000/ or both

48. The material collected for suspected chronic arsenic poisoning, in order of preference are
(A) Hair, kidney, liver (B) Liver, kidney, hair
(C) Hair, liver, kidney (D) Liver, kidney, urine

49. Which category/categories of biomedical waste do not require container for disposal.
(A) 3 (B) 9 (C) both A and B (D) 8

50. Preferred preservative for chemical examination is
(A) 70% formalin (B) 70% ethanol (C) 95% ethanol (D) 95% formalin

51. vii) The material collected for suspected acute arsenic poisoning, in order of preference are
(A) Hair, kidney, liver (B) Liver, kidney, hair
(C) Hair, liver, kidney (D) Liver, kidney, stomach contents

52. Iodine value of beef is
(A) 40-46 (B) 35-46 (C) 38-46 (D) 42-46

53. Animal welfare is
(A) Quality of the animal (B) Relative (C) multi variable (D) All of above

54. As per Prevention of cruelty to Animals Act, cruelty does not include (if done in a prescribed manner)
(A) Branding (B) Dehorning (C) nose roping (D) All of above

55. Which of the following is an isotonic solution?
(A) NSS (B) Lactated Ringers solution (C) Normosol-R (D) All of the above

56. Crackles are most commonly heard during
(A) Inspiration (B) End of inspiration or early expiration
(C) Expiration (D) End of expiration or early inspiration

57. During treatment or respiratory system diseases, the primary goal is
(A) To reduce volume and viscosity of secretions (B) Oxygen therapy
(C) To facilitate removal of secretions (D) Both A and C

58. The commonly used expectorants for dry cough are
(A) Morphine and codeine (B) Aminophyline
(C) Doxapram (D) All of the above

59. The gold standard for clinical diagnosis of laryngeal paralysis in dogs is
(A) Radiography (B) Laryngoscopy
(C) Ultrasonography (D) Clinical examination

60. Major blood groups in dogs are
(A) DEA 1.1 (B) DEA 7 (C) DEA 1.2 (D) Both A and B

61. The preferred anticoagulant for blood transfusion in dogs is
(A) CPDA (B) ACD (C) Heparin (D) 3.8% sodium citrate

62. Which of the following is not a blood transfusion reaction
(A) Fever (B) Vomition (C) Seizure (D) Urticaria

63. The pH of normal saline solution is
(A) Acidic (B) Basic (C) Almost neutral (D) Exactly neutral

64. Lactated Ringers solution is
(A) Isotonic (B) Hypertonic (C) Buffered isotonic (D) Buffered Hypertonic

65. Decreased Hb, normal MCV and normal MCHC is
A) Macrocytic and Hypochromic anemia B) Hypochromic and macrocytic anemia
C) Normocytic and normochromic anemia D) Microcytic and Hypochromic anemia

66. The demand for increased heat loss of body is met by:
A) Vasodialation of skin and increased production of sweat
B) Vasoconstriction of skin and increased production of sweat
C) Excessive oxidation of nutrients in muscles and liver D) Hyperglycemia in body

67. Which of the following should not be given in colic without assessing the cardiovascular system
A) Flenixin Meglumine B) Fluids C) Laxative D) All of the above

68. Acute bacterial infections are characterized by
A) Leukopenia B) Neutropenia C) Neutrophilic leukocytosis D) Both A and B

69. Increase in number of neutrophils with increase in the number of immature cell of granulocytic series in the peripheral blood is called
A) Neutropenia with Left Shift B) Neutrophilia with Left shift
C) Neutropenia with Right shift D) Neutrophilia with Right shift

KEY

Question No.	Answer	Question No.	Answer
1.	D	41	D
2.	A	42	D
3.	C	43	C
4.	A	44	D
5.	B	45	C
6.	B	46	D
7.	A	47	D
8.	B	48	C
9.	B	49	D
10.	A	50	C
11.	B	51	D
12.	D	52	C
13.	C	53	D
14.	A	54	D
15.	D	55	D
16.	C	56	A
17.	C	57	D
18.	C	58	A
19.	B	59	B
20.	C	60	D
21.	C	61	A
22.	B	62	C
23.	C	63	A
24.	A	64	A
25.	C	65	C
26.	D	66	A
27.	B	67	A
28.	C	68	D
29.	D	69	B
30.	A	70	
31.	C		
32.	C		
33.	B		
34.	D		
35.	C		
36.	A		
37.	B		
38.	C		
39.	B		
40.	A		

MICROBIOLOGY

1. Heat labile solutions are usually sterilized by
   A) Dry heat
   B) Autoclave
   C) Membrane filtration
   D) Pasteurization
2. All of the following are true about agar except
   A) Liquefies at 100°C.
   B) A polysaccharide derived from a red alga.
   C) Metabolized by bacteria.
   D) Facilitate obtaining pure cultures.
3. The 70S prokaryotic ribosome consist of
   A) two 40S subunits
   B) a 50S and a 30S subunit
   C) a 40S and a 30S subunit
   D) a 50S and a 20S subunit
4. What is the purpose of bacterial endospores?
   A) Allow the bacterium to make hundreds of "seeds" to spread on the wind
   B) Help the bacterium to differentiate into faster growing stages of bacteria
   C) Allow the bacterium to survive the absence of oxygen
   D) Allow the bacterium to survive extended periods of heat or dryness
5. …….is the chemical constituent present in endospore which is largely responsible for its resistant nature.
   A) $MgCl_2$
   B) Dipicolinic acid
   C) $CaCl_2$
   D) None of these
6. The most common start codon for protein translation in bacteria is …….. which codes for formyl methionine
   A) AUG
   B) UAG
   C) UAA
   D) UGA
7. Bacterial enzymes that cuts DNA through sugar-phosphate backbone at or near specific recognition nucleotide sequences are known as
   A) DNA ligases
   B) Alkaline phosphatases
   C) Restriction Endonucleases
   D) DNA polymerases

8. The toxicity of Gram-negative bacteria is often due to
   A) Protein secreted by the vegetative cell
   B) Lipid A portion of lipopolysacrride, also known as endotoxin
   C) Endospores
   D) None of the above
9. Peptidoglycan layer in bacterial cell wall is made of
   A) Cellulose
   B) N-Acetylmuramic acid
   C) N-acetylglucosamine
   D) Both B and C
10. Which agar is commonly used for Antibiotic sensitivity test?
   A) Nutirent agar
   B) Muller-Hinton agar
   C) Blood agar
   D) None of these
11. Multilayered capsid occurs in
   A) Blue Tongue virus
   B) Poxvirus
   C) FMD virus
   D) Poliovirus
12. The first virus known to mankind discovered by Ivanovsky and Beijerinck is
   A) Tobacco Mosiac Virus
   B) Foot-and-mouth disease virus
   C) Yellow fever virus
   D) Pox virus
13. Reassortment is possible in.....viruses
   A) dsDNA
   B) ssRNA
   C) Multipartite
   D) Monopartite
14. Largest known viruses are
   A) Pox viruses
   B) Picornaviruses
   C) Pandoravirus
   D) Circovirus
15. Electron microscope designed by Ernst Ruska that are used to see viruses has a magnification of
   A) 1,000X
   B) 10,000X
   C) 100,000X
   D) 7,000X

16. Which of the following structures are NOT found in naked virions?
    A) Capsomers
    B) Peplomers
    C) Nucleocapsid
    D) Protomers
17. The cancer producing retroviruses have an additional gene called
    A) gag
    B) pol
    C) v-onc
    D) env
18. The genomic replication of most DNA viruses takes place in……...of cell.
    A) Nucleus
    B) Cytoplasm
    C) Mitochondria
    D) Golgi apparatus
19. A virus which is highly cytopathic in cell culture might be expected to induce:
    A) Vacuole formation
    B) Syncytial formation
    C) Inclusion body formation
    D) All
20. What is NOT true about Baltimore classification of viruses?
    A) Based on the mechanism of mRNA production
    B) Viruses are classified into 7 groups
    C) dsRNA viruses form Group III
    D) Used alone in modern virus classification
21. A reassortment in Infulenza viral genome that leads into drastic reorganization of its surface antigen is known as:
    A) Antigen drift
    B) Antigen shift
    C) Point mutation
    D) Frame shift mutation
22. Which type of hypersensitivity cannot be transferred with serum antibody?
    A) Type I
    B) Type II
    C) Type III
    D) Type IV
23. Human colostrum and milk is abundant in…….immunoglobulin, whereas cow milk and colostrum is rich in…….immunoglobulin?
    A) IgA, IgG
    B) IgM, IgG
    C) IgG, IgA
    D) IgG, IgG

24. In organ transplantation, a graft between members of the same species is termed
    A) Autograft
    B) Isograft
    C) Xenograft
    D) Allograft
25. Which of the following cytokine has anti-inflammatory activity?
    A) IL-1
    B) IL-6
    C) IL-2
    D) IL-10
26. Phagocytic cell of the central nervous system is called as:
    A) Kuffer cell
    B) Microglial cell
    C) Interstitial macrophage
    D) M-cell
27. Cytosolic antigens are presented via MHC -I to
    A) CD8+ T cells
    B) CD4+Tcells
    C) Both
    D) γδ T-cell
28. T he chicken major histocompatibility complex (MHC) is also known as
    A) HLA
    B) BoLA
    C) B antigen
    D) None of the above
29. The only antibody capable of crossing the placenta to give passive immunity to the fetus is:
    A) IgA
    B) IgG
    C) IgM
    D) IgE
30. The antibody found in serum and egg yolk of birds and reptiles is:
    A) IgW
    B) IgD
    C) IgM
    D) IgY
31. In alternative pathway of complement activation……act as C3 convertase:
    A) C4b2a
    B) C3bBb
    C) C4b2a3b
    D) C3bBbC3b

32. In ruminants the site of B-cell development is:
    A) Payers patches in small intestine
    B) Bursa of Fabricus
    C) Bone Marrow
    D) Liver
33. Marek's disease, a lyphoproliferative disease of chickens, is caused by:
    A) Gallid Herpes Virus 1
    B) Gallid Herpes Virus 2
    C) Alcelaphine herpesvirus 1
    D) ovine herpesvirus 2
34. The reservoir host for the causative agent (ovHV2) of Malignant catarrhal fever is:
    A) Cattle
    B) Sheep
    C) Pigs
    D) Horse
35. The rabies virus uses……receptors at neuromuscular junction to enter into the nerve cells:
    A) Ach receptors
    B) αvβ6 interrins
    C) Sialic acid
    D) Heparin sulphate
36. "Blue eye" condition, a corneal opacity following convulcent stage of natural infection is seen in :
    A) Infectious canine hepatitis
    B) Canine parvovirus infection
    C) Canine distemper
    D) Psedorabies
37. Which of the following belong to genus Morbillivirus
    A) Rinderpest virus
    B) Peste-des-petitis-ruminants virus (PPRV)
    C) Canine distemper virus
    D) Measeales virus
    E) All
38. The serotypes of FMD virus currently prevent in India are:
    A) O, A, C & Asia 1
    B) O, A & Asia 1
    C) O, A and SAT 1
    D) Asia 1 only

39. Two main strains responsible for equine influenza(Horse flu) are:
    A) H7N7 & H3N8
    B) H1N1 & H3N2
    C) H5N1 & H7N9
    D) H10N7 & H2N2
40. Infectious Bursal Disease cause severe immunosupression in young chickens due to:
    A) Destruction of T-cell in Bursa of Fabricius
    B) Destruction of pro-T cells in Thymus
    C) Destruction B-cells in Bursa of Fabricius
    D) None of the above
41. The disease caused by bovine hepes virus 1 (BHV-1) in cattle include:
    A) Infectious Bovine Rhinotracheitis
    B) Infectious pastular valvovaganitis
    C) Infectious balanoposthitis
    D) All
42. What is NOT true about Antrax toxin?
    A) It is an A/B toxin
    B) It is an Endotoxin
    C) Combination of Protective Antigen (PA) and Edema Factor (EF) causes edema
    D) Combination of Protective Antigen (PA) and Lethal Factor (EF) causes death
43. Which organism is responsible for black leg in animals
    A) *Clostridium novyi*
    B) *C. perfringens*
    C) *C. Chauvoei*
    D) *C. oedematiens*
44. *Clostridium perfringens type D* produces:
    A) α-toxin only
    B) α-, β-, and epsilon toxins
    C) α- and β-toxins
    D) α-and epsilon toxins
    E) α- and iota toxins
45. Strain 19 and RB51 are vaccine strains of
    A) Bacillus anthracis
    B) Mycobacterium bovis
    C) Salmonella typhimurium
    D) Brucella abortus

46. The causative agent of contagious bovine pleuropneumonia (CBPP) is a:
    A) Bacteria
    B) Virus
    C) Fungi
    D) Mycoplasma
47. Mannitol Salt Agar is a differential and selective media for
    A) E. Coli
    B) Streptococcus
    C) Salmonella
    D) Staphylococcus
48. CAMP test is used for identification of
    A) *Streptococcus agalactiae*
    B) *Listeria monocytogenes*
    C) *Both of the above*
    D) *Staphylococcus aureus*
49. Which one does NOT give positive Naglers reaction (Lecithinase activity):
    A) Bacillus cereus
    B) Bacillus anthracis
    C) Clostridium perfringens
    D) Clostridium difficile
50. Hemorrhagic septicaemia is caused by
    A) Mycoplasma pneumoniae
    B) Haemophilus influenzae
    C) Pasturella multocida
    D) Bordetella pertussis

Key:

1. C	2. C	3. B	4.D	5.B	6.A	7.C	8.B	9.D	10.B	11.A	12.A
13.C	14.C	15.C	16.B	17.C	18.A	19.D	20.D	21.B	22.D	23.A	24.D
25.D	26.B	27.A	28.C	29.B	30.D	31.B	32.A	33.B	34.B	35.A	36.A
37.E	38.B	39.A	40.C	41.D	42.B	43.C	44.D	45.D	46.D	47.D	48.C
49.D	50. C										

Animal Nutrition I

1. Which of the following oilcakes contain anti-nutritional factor "gossypol"?	
A. Cotton seed cake	B. Mustard cake
C. Groundnut cake	D. Mahua cake
2. Metabolizable Energy (ME) is most commonly used to evaluate feedstuffs for:	
A. Laboratory animals	B. Ruminants
C. Poultry	D. All of the above
3. Which of the following is most suitable for silage making?	
A. Lucerne	B. Berseem
C. Maize	D. Oats
4.Most promising initial symptom of Vitamin A deficiency in cows is:	
A. Night blindness	B. Copius salivation
C. Xeropthalmia	D. Copius lacrymation
5. The best method for estimation of Gross energy of feed is:	
A. Bomb calorimeter	B. Armsby's Respiration chamber
C. Photometry	D. Chromatography
6.pH in good quality silages should be in the range of :	
A. 4.5 – 4.8	B. 4.2 – 4.5
C. 3.5 – 4.2	D. 4.8 – 5.4
7. Which of the following cereal grains has the highest energy content?	
A. Wheat	B. Maize
C. Barley	D. Oats
8. Oxalate content is more in:	
A. Paddy straw	B. Jowar karbi
C. Sudan grass	D. Bajra
9. Which of the following nutritional errors is common in high producing cows?	
A. Milk fever	B. Ketosis
C. Acidosis	D. All the above
10. Which one of the following amino acid is essentially absent in plants	
A. Lysine	B. Methionine
C. Taurine	D. Threonine

Key:

Q. No.	
1	Cotton seed cake
2	Poultry
3	Maize
4	Copius lacrymation
5	Bomb Calorimeter
6	3.5 – 4.2
7	Maize
8	Paddy straw
9	All the above
10	Lysine

NUTRITION-II		
1)	Which of the following anti-vitamin substance is present in sweet clover?	
Anti-Vitamin A		Anti-Vitamin D
Anti-Vitamin E		**Anti-Vitamin K**
2)	Vitamin required in propionic acid metabolism is:	
Vit-C		**Vit-B12**
Vit-B2		Vit-B4
3)	The square lips of Rhinoceros indicate that it is primarily a	
Browser		**Grazer**
Mixed feeder		NOT
4)	Mineral deficient in milk is:	
Zinc		Copper
Iron		Manganese
5)	Which of the following fodder crop(s) is most suitable for temperate zone?	
Oats		Berseem
Sorghum		**All the above**
6)	Maintenance type of roughage hasDCP:	
3–5%		6–10%
11–15%		16-20%
7)	Which kind of disease is limber neck?	
Metabolic disease		Deficiency disease
Toxicity		**Infectious disease**
8)	Anti-nutritional factor(s) which could be used as feed additives is/ are:	
Lectin		Tannin
Saponin		**Both tannins& saponins**
9)	Fiber content in root crops is usually in the range of:	
0-4%		**5-12%**
12-18%		18-25%

10) The first limiting amino-acid in rat diets is	
Histidine	Lysine
Tryptophan	Methionine

Key Bold case option is write answer

PARASITOLOGY-I

1. Inquilism is a type of following commensalism
   A. Synoecious type B. Transport type
   C. Protective type D. None

2. The following snail is the intermediate host of *Schistosoma spindale*
   A. *Lymnaea luteola* B. *Indoplanorbis exustus*
   C. *Lymnaea auricularia* D. *Lymnaea trancatula*

3. *Trypanosoma brucei* produce a cystine protease that inhibits parasite opsonisation by degrading antibody bound trypanosome antigen called
   A. Trypanopain B. Cruzipain
   C. TcTox D. None of them

4. One adverse consequence of immunity to protozoa causing local irritation and inflammation of genital tract in case of Trichomoniasis is
   A. Type **I** hypersensitivity B. Type II Cytotoxic reaction
   C. Type IV hypersensitivity D. Type III hypersensitivity

5. The organisms invade the mucosa and submucosa of large intestine of man and produce flask shaped ulcers and in some cases the infection may spread to liver resulting in production of abscess.
   A. *Entamoeba histolytica* B. *Entamoeba dispar*
   C. *Entamoeba coli* D. *Entamoeba moshkovskii*

6. Sulpher yellow droppings are the characteristic clinical signs of disease caused by this organism in turkeys
   A. *Eimeria melearidis* B. *Eimeria tenella*
   C. *Histomonas meleagridis* D. *Trichomonas gallinae*

7. Which one is not intermediate host of *Dipylidium caninum*
   A. *Ctenocephalides canis* B. *Ctenocephalides felis*
   C. *Trichodectis canis* D. *Oribatid* mites

8. The infective stage of Ascarid worm is
   A. L3 B. L2
   C. L2 within egg D. L3 within egg

9. The drug of choice for lung worm is
   A. Fenbendazole B. Diethylecarbamazine
   C. Piperazine adimate D. Ivermectin

10. Pathogenesis of hepato-intestinal schistosomosis is mainly caused by
    A. Eggs of Schistosomes B. Immature stages of schistosomes
    C. Furcocercous cercariae of schistosomes D. Adult schistosomes

Key: 1. A, 2. B, 3. C, 4. A, 5. A, 6. C, 7. D, 8. C, 9. B and 10. A

PARASITOLOGY-II

1) The cestode having direct life cycle is
   a) *Hymenolepis nana* b) *Dipylidium* spp.
   c) *H. carioca* d) None
2) Eggs of parasites belonging to sub class Digenea have operculum except
   a) *Fasciola* b) *Dicrocoelium*
   c) *Schistosoma* d) Paramphistomes
3) In *Macrocanthorynchus hirudinaceus* the intermediate host is
   a) Beetle b) Fleas
   c) Both d) None
4) *Dioctophyma renale* is the largest nematode of
   a) Dog b) Cattle
   c) Pig d) Horse
5) Spicule helps in
   a) Attachment b) Copulation
   c) Both of the above d) None of the above
6) Parasites of zoonotic potential
   a) *Fasciolopsis buski* b) *Paramphistomum cervi*
   c) *Toxocara vitulorum* d) *Ascaris suum*
7) Knott's test is used for the diagnosis of
   a) Strongylids b) Spiruirids
   c) Ascarids d) Filarids
8) Brown stomach worm
   a) *Habronema* b) *Ostertagia*
   c) *Haemonchus contortus* d) *Mecistocirrus digitatus*
9) Cercarial dermatitis in human is caused by penetration of cercariae of
   a) Human origin b) Avain origin
   c) Both of the above d) None of the above
10) Reddish pomegranate seed like appearance in faeces of ruminants indicates
   a) Fasciolosis b) Ascariosis
   c) Schistosomosis d) Paramphistomosis
11) Uterine bell is a special organ in females of
   a) Platyhelminths b) *Acanthocephala*
   c) Nemathelminths d) Arthropods
12) The rosteller hooks of *Taenia solium* is
   a) Rose thorn shaped b) Sickle shaped
   c) Blade with handle shaped d) All of the above
13) The body cavity of arthropod is known as
   a) Coelom b) Haemocele
   c) Blastocele d) None of the above
14) The obtectate pupae are encountered in the life cycle of
   a) Nematocera b) Brachycera
   c) Both of the above d) None of the above
15) Larva of all Dipterean insects are
   a) Apodus b) Polypodus

c) Oligopodus d) None of the above

16) Screw worm myiasis is caused by
a) *Lucilia sericata* b) *Cochliomyia macellaria*
c) *Oestrus ovis* d) *Calliphora*

17) Which insect order has incomplete metamorphosis
a) Diptera b) Siphonoptera
c) Hymenoptera d) Hemiptera

18) Character of arthropod is
a) Hard chitinous exoskeleton b) Jointed legs
c) Segmented body d) All of the above

19) Most pathogenic coccidian species in poultry is
a) *E. brunetti* b) *E. necatrix*
c) *E. tenella* d) *Wenyonella gallinae*

20) Solid and specific immunity is seen in
a) *T. parva* b) *T. annulata*
c) *T. mutans* d) None of the above

21) The protozoan parasite which shows reproduction by transverse binary fission
a) *Balantidium coli* b) *Trypanosoma evansi*
c) Both of the above d) None of the above

22) *Ehrlichia canis* occurs in
a) Erythrocytes b) Monocytes
c) Both of the above d) None of the above

23) Acid fast staining of faecal smears is done for detection of oocysts
a) *Cryptosporidium parvum* b) *Toxoplasma gondii*
c) *Neospora caninum* d) All of the above

24) The organism is transmitted directly from carrier older birds to the newly hatched pigeon squab via pigeon's milk from the crop.
a) *Trichomonas gallinae* b) *Hexamita columbae*
c) *Histomonas meleagridis* d) None of the above.

25) Which of the undernoted systems in parasites is distinctly developed
a) Excretory system b) Digestive system
c) Nervous system d) Reproductive system

26) The association in which parasite injuries the host and produces pathological lesion is known as
a) Parasitosis b) Parasitiasis
c) Parasitoids d) Both a & b

27) The following acts as the 2nd intermediate host in *Eurytrema pancreaticum*
a) Ant b) Grasshoper
c) Beetle d) Naids

28) Vitelline gland looks like bunch of grapes in the following
a) *Heterophyes* spp. b) *Opisthorchis* spp.
c) *Prosthogonimus* spp. d) *Fasciola* spp.

29) *Cercariae pigmentata* relates to the following
a) A*mphistomes* b) *Fasciola* spp.
c) *Dicrocoelium* spp. d) *Schistosoma* spp.

30) Interproglottidal gland present as band in posterior part of the segment in

a) *Moniezia benedeni* b) *Moniezia expansa*
c) *Thysonosoma actinboides* d) None of the above

31) This is known as the "Dwarf tape worm of the poultry"
a) *Davainea proglottina* b) *Cotugnia dignopora*
c) *Davainea meleagridis* d) None of the above

32) Cervical alae is/are characteristic feature of the following
a) *Toxascaris* b) *Physocephalus*
c) *Oesophagostomum* d) All of the above

33) Opisthodelph refers to
a) Uteri and ovaries run forward
b) Uteri and ovaries run backward c) Uteri and ovaries run in opposite direction
d) None of the above

34) Two ear shaped dorsal teeth is the characteristic feature of
a) *S. vulgaris* b) *S. equines*
c) *S. endentatus* d) None of the above

35) The chief constituent of arthropods exoskeleton is
a) Polysaccharides b) Chitin
c) Lipid d) Water

36) In which fly, arista is plumed on either side upto tip
a) *Musca* spp. b) *Stomoxys* spp.
c) *Glossina* spp. d) *Oestrus ovis*

37) In insects which is known as "organ of taste"
a) Labrum b) Labium
c) Hypopharynx d) Epipharynx

38) Telmophage/ Pool feeder is one of the following
a) *Musca* b) Mosquitoes
c) *Tabanus* d) None of the above

39) An arthropod classified under division exopterygota is
a) Lice b) Grasshopers
c) Flies d) Both a & b

40) In India vector of kala-azar is one of the following
a) *Phlebotomus argentipes* b) *P. papatasii*
c) *P. minutes* d) *P. sergenti*

41) In which fly wings'R_5 cell' is open
a) *Musca* b) *Stomoxys*
c) *Tabanus* d) *Glossina*

42) *Cochliomyia hominivorax* is commonly known as
a) Old world screw worm fly b) New world screw worm fly
c) Human bot fly d) All of the above

43) Diagnosis of "Surra" in dogs is confused mainly with the following
a) Rabies b) Canine distemper
c) Parvo Viral infection d) Infectious canine hepatitis

44) The following is the largest trypanosome
a) *Trypanosoma evansi* b) *Trypanosoma theileri*
c) *Trypanosoma brucei* d) *Trypanosoma congolense*

45) The VSG is present in the following stage of parasite
a) Trypomastigote b) Amastigote
c) Epimastigote d) Promastigote

46) Choose the causative agent of the muco-cutaneous leishmaniosis
a) *Leshmania braziliensis* *b)* *Leshmania donoveni*
c) *Leshmania tropica* d) Bothe a & c

47) Choose the agent from the following causing infectious enteritis in pigeon
a) *Histomonas columbae* b) *Hexamita meleagridis*
c) *Trichomonas gallinae* d) *Trypanosoma meleagridis*

48) Example(s) of live virulent vaccine against poultry coccidiosis
a) Coccivac b) Imunocox
c) Livacox d) Both a & b

49) The protozoan that can be transmitted through inhalation
a) *Cryptosporidium* spp. b) *Eimeria* spp
c) *E. histolytica* d) *Trypanosoma evansi*

50) Animals show neurological signs due to the following agent
a) *Babesia bovis* b) *Babesia canis*
c) *Babesia divergens* d) Both a & b

KEY

1) a)
2) c)
3) a)
4) a)
5) c)
6) a)
7) d)
8) b)
9) b)
10) d)
11) b)
12) c)
13) b)
14) c)
15) a)
16) b)
17) d)
18) d)
19) c)
20) a)
21) a)
22) b)
23) a)
24) a)
25) d)

26) a)
27) b)
28) c)
29) a)
30) a)
31) a)
32) d)
33) b)
34) a)
35) b)
36) a)
37) d)
38) c)
39) d)
40) a)
41) b)
42) b)
43) a)
44) c)
45) a)
46) a)
47) a)
48) d)
49) a)
50) d)

PATHOLOGY

1. Transport of Mycobacterium paratuberculosis across the mucosa is facilitated by
   A. Paneth cells
   B. Cup cells
   C. Tuft cells
   D. M cells
2. Encephalitic form of Leptospirosis is commonly seen in
   A. Ruminants
   B. Dog
   C. Horse
   D. All of these
3. Cofal test is done for confirmation of which disease.
   A. Egg drop syndrome
   B. Avian Leukosis
   C. Marek' s Disease
   D. ILT
4. Curled toe paralysis is due to deficiency of
   A. Vitamin B2
   B. Vitamin B12
   C. Vitamin B1
   D. Vitamin B6
5. Brown Induration of lungs is characteristic of
   A. Left sided heart failure
   B. Right sided heart heart failure
   C. Myocardial infarction
   D. CorPulmonale.
6. Which of the following supra vital stain is used to demonstrate reticulocytes in peripheral circulation.
   A. New methylene blue
   B. Briliantcresyl Blue
   C. Both
   D. Modified Wright's stain
7. Which of the following is not a malignant neoplasm
   A. Fibrosarcoma
   B. TVT
   C. Melanoma
   D. None of these
8. Spherocytes in blood are indicative of
   A. Auto immune hemolytic anemia
   B. Sideroblastic anemia
   C. Myelopthisic anemia
   D. Iron deficiency anemia

9. Which of these does not represent programmed form of cell death.
   A. Apoptosis
   B. Necroptosis
   C. Pyroptosis
   D. None of these.
10. Thrombo embolic meningo encephalitis of cattle is caused by
   A. Haemophilussomnus
   B. Haemophilusparasuis
   C. Haemophilushemolyticus
   D. all of these

Key:

Q No	1	2	3	4	5	6	7	8	9	10
Correct Answer	D	A	B	A	A	C	D	A	D	A

PATHOLOGY-II

1, Pearl disease in cattle is caused by
   A. Mycobacterium tuberculosis
   B. Mycobacterium paratuberculosis
   C. Mycobacterium avium
   D. Haemophilussomnus

2. In bats the replication of Rabies virus primarily takes place in
   A. Neurons
   B. Oligodendroglia
   C. Astrocytes
   D. Adipose tissue

3. Bollinger bodies are
   A. Intra nuclear
   B. Intra cytoplasmic
   C. Intra nucleolar
   D. None of above

4. Infilitration of liver with pleomorphic lymphocytes is characteristic of
   A. Lymphoid Leukosis
   B. IBH
   C. Marek's disease
   D. ILT

5. Which of the following defects does not characterize Tetralogy of Fallot
   A. Overriding aorta
   B. Right ventricular hypertrophy
   C. Pulmonary stenosis
   D. Atrial septaldeffect

6. Tired blood is characterized by
   A. Microcytic hypochromic anemia
   B. Macrocytic Hypochromic anemia
   C. Normocytic normochromic anemia
   D. None of these

7. Which of vthe following is not a feature of malignancy
   A. Anaplasia
   B. Pleomorphism
   C. Decreased Nuclear/ cytoplasmic ratio
   D. None of these

8. Which of the following cannot be used to demonstrate chlamydia in tissue sections.
   A. Casteneda
   B. Gimenez
   C. Giemsa
   D. None of these

9. Brain and spinal cord is mostly characterized by
   A. Liquifactive necrosis
   B. Coagulative necrosis
   C. Caseative necrosis
   D. Fat necrosis

10. '*Steely wool* 'disease of sheep is caused due to deficiency of
    A. Iron
    B. Copper
    C. Selenium
    D. Magnesium

Key:

Q No	1	2	3	4	5	6	7	8	9	10
Correct Answer	A	D	B	C	D	A	C	D	A	B

PATHOLOGY-III

1. In context of disease etiology the genetic factors act as

a Predisposing causes
b Exciting causes
c Either predisposing or exciting causes
d Modulators

2. Obesity is due to

a Hyperplasia of adipocytes only
b Hypertrophy of adipocytes only
c Hyperplasia and hypertrophy of adipocytes
d Fatty change in liver only

3. State of hypervitaminosis occurs in

a Vitamin A and B
b Vitamin B and C
c Vitamin C and D
d Vitamin A and D

4. In lysosomal storage diseases, the following cells are particularly involved

a Hepatocytes
b Macrophages
c Skeletal muscle
d White pulp of spleen

5. The cellular systems vulnerable to injury are

a Mitochondria and cell membrane
b Cell membrane & proteins synthesis
c Nucleic acids and protein synthesis
d Mitochondria, cell membrane, nucleic acids and protein synthesis

6. In ischaemic reperfusion cell injury, there is

a Increased extracellular calcium
b Increased cytosolic calcium
c Equal extracellular and cytosolic calcium
d No change in calcium equilibrium

7. The major mechanism of plasma membrane damage in hypoxia is

a Reduced intracellular pH
b Increased intracellular sodium
c Increased cytosolic calcium
d Reduced aerobic respiration

8. In killing or degradation phase of phagocytosis, the oxygen-dependent bactericidal mechanism involves

a Hydrogen ion
b H2O2 myeloperoxidase-halide system
c Superoxide radicals
d H2O2 myeloperoxidase-halide & superoxide

9. Leukocyte emigration during inflammatory process takes place

a Through inter-epithelial cell junctions
b Transcellularly
c By vascular rhexis
d All of the above

10. Prostacyclin is synthesized and released by

a Endothelium
b Blood platelets
c Blood leukocytes
d Profactors in blood

11. The first disease clearly shown to be result of genetic influences at molecular level is

a Sickle cell anaemia
b Cystinuria
c Glycogen storage disease
d Alkaptonuria

12. Shopes' cutaneous papilloma is caused by

a Fungal infection
b Parasitic infestation
c Viral infection
d Actinic rays

13. Hereford breed of cattle has inherited susceptibility to occular

a Carcinoma
b Sarcoma
c Neuroma
d Neurofibroma

14. Even the adequate amount of copper in soil and plants become insufficient in presence of excessive

a Vitamin B12 b Calcium
c Iron d Molybdenum

15. Hypercalcaemia tends to cause

a Milk fever b Parathyroid tumors
c Metastatic calcification d Parathyroid tetany

16. The cells in bone marrow that are quite resistant to radiation are

a Myelocytes b Megakaryocytes
c Erythrocytes d Reticular cells

17. In copper deficiency in lambs, the most prominent change in the nervous system is

a Oedema of brain b Encephalitis
c Lipodystrophy of CNS d Demyelination

18. Fundamental factor determining malignancy is

a Anaplasia b Metaplasia
c Dysplasia d Aplasia

19. Gout is primarily a disease of primates and poultry because both

a Overfeed on protein diet b Suffer from vitamin A deficiency
c Suffer from inherent Uricase enzyme deficiency d Are uricotelic

20. Congenital porphyria leads to

a Photosensitivity dermatitis b Anaemia
c Both a & b d Icterus

21. Endotoxic shock is caused by

a Gram negative bacteria b Gram positive bacteria
c Acid fast bacilli d Viral infection

22. Most important prerequisite for thrombosis is

a Slowing of blood flow b Change in composition of blood
c Increased number of platelets d Injury to endothelium

23. Anasarca is the result of

a Increased vascular permeability b Hypoproteinaemia
c Chronic venous congestion d Any of the above three

24. Infarction in lungs and liver is rare due to

a Double blood supply b Little collateral blood supply
c Both are parenchymatous organs d Liquifaction necrosis predominates in both

25. The colour of the infarct in various organs depends on

a Solidity of organ b Type of occlusion
c Collateral blood circulation d All of the above

26. Zenker's necrosis is a special kind of necrosis occurring in

a Smooth muscles b Skeletal muscles
c Nervous tissue d Connective tissue

27. Chief sites of histamine production are

a Skin, respiratory system & gut b Skin, nervous system & gut
c Skin, cardiovascular system & gut d Cardiovascular & nervous system

28. Following type of shock occurs least in animals

a Endotoxic b Hypovolumic
c Nervous d Surgical

29. Mucous producing cells in catarrhal inflammation can be stained by

a Von Kossa stain b Sudan black stain
c Degalantha's stain d PAS stain

30. Granulation tissue is composed of

a Fibrocytes and budding capillaries b Fibroblasts and mature collagen
c Fibroblasts and budding capillaries d Fibrocytes and chronic inflammatory cells

31. All DNA viruses have double stranded genome except

a Herpesviridae b Parvoviruses
c Poxviridae d Adenoviridae

32. The lipid bilayer of viral envelop is acquired by the virus from the host

a Plasma membrane b Endoplasmic reticulum
c Golgi apparatus or nuclear membrane d All of above

33. Cellular injury inflicted by pox virus is characterized by

a Cell death and proliferation b Metaplasia
c Atrophy d All of the above

34. The chief pathologic change in pseudorabies in cattle comprises

a Degenerative/ necrotic changes of ganglion b Gliosis and subsequent glial nodule formation
c Neuronophagia d Perivascular cuffing

35. Chief lesions of ICH are

a Peritoneal oedema and haemorrhage b Gliosis and intracytoplasmic inclusions in brain
c Focal necrosis and intranuclear inclusions in liver d Periportal Cirrhosis and intracytoplasmic inclusions in liver

36. Vesicle formation in FMD initiates in the particular layer of skin/ mucous membrane

a Stratum spinosum b Stratum germinatum
c Stratum lucidum d Basement membrane

37. Generally the pathogonomic lesions of hog cholera are

a Oedema and haemorrhage b Neuronal degeneration and gliosis
c Leucocytosis nand haemorrhagic enteritis d Leucopaenia and button shaped ulcers in caecum and colon

38. Demyelination of the nerve fibres in brain and spinal cord is the characteristic histopathological lesion in

a Canine distemper b Equine encephalomyelitis
c Rabies d Pseudorabies

39. Rinderpest virus has special affinity for

a Myeloid tissue and skin b Nervous tissue and lymph nodes
c Lymphoid tissue and GI epithelial cells d Reticulo endothelial- and capillary endothelial cells

40. The most striking and diagnostic microscopic lesion of scrapie in sheep constitutes

a Vacuolation in neuronal cytoplasm and diffuse astrogliosis b Neuronophagia
c Encephalomyelacia d None of the above

41. Clinicopathological feature of whole body radiation include

a Lymphopaenia b Thrombocytopaenia
c Neutropaenia d All of the above

42. The total cell cycle time for neoplasms is

a Equal to corresponding normal cells b Longer than corresponding normal cells
c Equal to or longer than corresponding normal cells d Less than corresponding normal cells

43. The cellular reaction in transplant rejection comprises

a T cells b T and B cells
c B cells and macrophages d T cells and macrophages

44. Wire loop glomeruli are seen in

a Membranous glomerulonephritis b Proliferative glomerulonephritis
c Chronic glomerulonephritis d Interstitial nephritis

45. Epithelial cresents are seen in

a Acute interstitial nephritis b Chronic interstitial nephritis
c Sub-acute interstitial nephritis d Nephrosis

46. In osteopetrosis there is

a Excess of calcified bone b Porosity
c softness d Both increased porosity & softness

47. In congenital icthyosis one of the following lesions is conspicuous on skin

a Vesicles b Pustules
c Rashes d Scaly appearance

48. Fish flesh appearance of muscles is seen in

a Black quarter b Anthrax
c White muscle disease d Autolysis

49. Interstitial pneumonia is generally caused by

a Bacteria b Viruses
c Fungi d Parasites

50. Ulcerative stomatitis in cattle is seen in

a Pasteurellosis b Cow pox
c Rinderpest d Actinobacillosis

51. The inflammatory reaction in omphalophelibitis is generally

a Pure granulomatous b Suppurative
c Non-suppurative d Mixed granulomatous

52. Infarcts in spleen are characteristically seen in

a Anthrax b Piglet anaemia
c Swine fever d Rinderpest

53. Black berry-jam spleen is characteristic feature in

a Anaemia b Anthrax
c Leukaemia d Pasteurellosis

54. Myocardial necrosis may be due to

a Deficiency of vitamin E b Deficiency of vitamin B
c Excess of vitamin E d Deficiency of vitamin C

55. Enteritis caused by *Mycobacterium avium paratuberclosis* in cattle is featured by

a Non-suppurative reaction
b Tuberculoid type granulomatous reaction
c Laperomatous type granulomatous reaction
d Suppurative reaction

56. Haemolytic anaemia may lead to

a Post-hepatic jaundice
b Intra-hepatic jaundice
c Pre-hepatic jaundice
d All of the above

57. Presence of punched-out ulcers covered with oily pus over the nasal mucosa in equines is suggestive of

a Strangles
b Glanders
c Mechanical injury
d Ulcerative lymphangitis

58. Giant cell pneumonia in calves has been associated with

a Chalymedia
b Fungi
c Mycoplasma
d PI-3 virus

59. In cattle enlargement of lymphnodes may occur in

a Tuberculosis
b Theileriosis
c Lymphosarcoma
d All of the above

60. Pseudolobulation is characteristic feature of

a Acute nonsuppurative hepatitis
b Acute suppurative hepatitis
c Chronic nonsuppurative hepatitis
d All types of hepatitis

61. In atherosclerosis, mononuclear cells having lipid in their cytoplasm are located in the

a Tunica media of blood vessels
b Tunica intima of small blood vessels
c Tunic intima of large elastic & muscular arteries
d Tunica intima of all the arteries

62. Endocrine alopecia may be due to

a Vitamin A deficiency
b Hypothyroidism
c Parathyroid adenoma
d Hyperpituritism

63. Arthrogryposis is usually associated with

a Imperforate anus & patent foramen ovale
b Imperforate anus & Kyphosis
c Patent foramen ovale & kyphosis
d Patent foramen ovale & webbed digits

64. Chrondrodysplasia has the following features

a Shortened leg bones and stunted growth
b Thickening of periosteum
c Thickening of endosteum
d Development of boney exosteosis

65. Rouleaux formation of erythrocytes is normally seen in

a Cattle
b Sheep
c Horse
d Goat

66. The type of anaemia characterized by decreased MCV and MCH is

a Normocytic, normochromic
b Microcytic, hypochromic
c Macrocytic, normochromic
d Normocytic, hypochromic

67. In sheep/goat, inclusions are not seen histopathologically in case of

a Sheep pox
b Goat pox
c Ulcerative dermatosis
d Contagious ecthyma

68. The causative factor for equine abortion/ equine rhinopneumonitis is

a Herpes virus
b Corona virus
c Mycoplasma
d Bacteria

69. In lymphoid leukosis the transformed bursal cells produce

a IgM b IgA
c TNF alpha d IL8

70. Pleomorphism of the offending cells is a feature of

a Lymphoid leukosis b Reticulo endotheliosis
c Marek's disease d Osteopetrosis

71. Streaks of congestion along the folds of mucosa of large intestine produce a characteristic 'barred' or 'zebra striped' appearance in the disease

a Foot and mouth disease b Rinderpest
c Bovine viral diarrhoea d Malignant catarrhal fever

72. Q fever affecting man, cattle, sheep, goat and birds caused by *Coxiella burnetti* is mainly transmitted by

a Mosquitoes b Lice
c Ticks d Fleas

73. The presence of minute, spherical basophilic bodies called LCL bodies in the tubular epithelium of the kidneys usually indicate the disease

a Psittacosis b Anaplasmosis
c Haemobartenellosis d Eperythrozoonosis

74. The cytoplasmic inclusions in the brain with tinctorial characteristics essentially same as those of Negri bodies, referred as 'lyssa bodies' have been reported in

a Fox b Wolf
c Cat d Cattle

75. In canine pulmonary tuberculosis the prominent feature is

a Diffuse infiltration of epithelioid cells b Calcification
c Caseation d Large number of giant cells

76. Which one of the following species is most susceptible to botulism

a Chicken b Ca ttle
c Sheep d Pig

77. The foetus of equine viral abortion shows characteristically

a Serofibrinous peritonitis b Focal hepatic necrosis and intranuclear inclusions
c Severe autolysis of larynx d Intense pulmonary oedema

78. Virus of bovine papillomatosis induce proliferation of

a Epidermis and dermis b Epidermis only
c Dermis only d Subdermal connective tissue

79. The most striking gross finding of the aborted foetus in IBR is

a Bloody discharge from natural orifices b Advanced postmortem autolysis
c Erythema of ventral abdomen d Occlusion of nasal passage

80. In blue tongue of sheep changes in oral mucosa, brain and placenta are characterized by

a Lymphangitis and oedema b Phlebitis and eosinophilic aggregates around blood vessels
c Increased capillary formation along with endothelial hypoplasia d Arteritis with endothelial hyperplasia and lymphocytic aggregates in adventitia

81. The cause of anaemia in equine infectious anaemia is

a Insufficient bone marrow b Depressed bone marrow
c Immune mediated haemolysis d Wide spread haemorrhages

82. Hard pad disease is synonym for

a Rabies
b Infectious canine hepatitis
c Swine fever
d Canine distemper

83. Erythrocytes containing non-haemoglobin-iron granules that stain blue with Prussian Blue Reaction

a Drepanocytes
b Codocytes
c Acanthocytes
d Siderocytes

84. Alpha toxin produced by following bacterium is a lecithinase which acts on cell membrane causing haemolysis and necrosis of cells

a *Clostridium Perfingens*
b *Bacillus anthracis*
c *Bacillus subtilis*
d *Pasteurella multocida*

85. In autoimmune haemolytic anaemia, the following type of immunological tissue injury is involved

a Type I/ anaphylactic
b Type II / cytotoxic
c Type III / immune complex
d Type IV / cell mediated

86. *Paragonimus westermanii* causes verminous pneumonia in following except

a Cattle
b Sheep
c Dog
d Cat

87. Following has not been associated with parasitic gastritis in cattle

a *Simondsia paradoxa*
b *Haemonchus contortus*
c *Ostertagia ostertagi*
d Trichostrongylus axei

88. In dogs nephrocalcinosis with deposition of calcium in interstitial tissue of kidneys is seen in

a *Dioctophyma renale* infection
b Leptospirosis
c Mercury poisoning
d Hypercalcaemia

89. In chronic interstitial nephritis

a Renal surface is finely granular
b Inflammation begins in glomeruli and extends to interstitial tissue
c Renal surface is coarsely granular
d Renal surface is smooth

90. Following causes meningoencephalomyelitis

a Hog cholera
b Louping ill
c Borna disease
d All of the above

91. White heifer's disease occurs due to arrest in the Mullerian duct system and is commonly seen in

a Short horn cows
b Herford cows
c Jersey cows
d Fresian cows

92. Presence of endometrial glands and stroma between the muscle bundles of myometrium is referred as

a Endometritis
b Adenomyosis
c Adenomatosis
d Tumour in situ

93. Orchitis is commonly caused by

a *Brucella* sp in bulls & boars
b *Salmonella abortus equi* in horses
c *Corynebacterium pyogenes* in rams
d All of the above

94. Chronic inflammation of spermatic cord is referred as

a Scirrous cord
b Funiculitis
c Phimosis
d Posthitis

95. Abnormal curvature of spine with dorsal prominence (hump back) is referred as

a Lordosis b Scoliosis
c Kyphosis d torticollis

96. Following is true for pulmonary osteoarthropathy

a Foci of new bone formation in lungs b Periosteal hyperostosis
c Joints not involved d All of the above

97. The condition in which vascular granulation tissue is found between the corneal epithelium and Bowman's membrane is refered as

a Keratitis b Pannus
c Staphyloma d Pink eye

98. Nodular granulomas in the mesentry and intestinal wall especially caeca is observed in

a Salmonellosis b Coccidiosis
c Pasteurellosis d Hjarre's disease

99. The characteristic sign of acute pasteurellosis in chicken is

a Star gazing b Drooling of saliva
c Paralysis d Tremors

100. Chronic respiratory disease in chicken is caused by

a *Mycoplasma* infection b *E. coli* infection
c Combined infection of *Mcoplasma* & *E coli* d *Mycobacterium avium*

(KEY)

1	c	**21**	a	**41**	d	**61**	c	**81**	c
2	c	**22**	d	**42**	c	**62**	b	**82**	d
3	d	**23**	d	**43**	d	**63**	b	**83**	a
4	b	**24**	a	**44**	a	**64**	a	**84**	a
5	d	**25**	d	**45**	c	**65**	c	**85**	b
6	b	**26**	b	**46**	a	**66**	b	**86**	d
7	c	**27**	a	**47**	d	**67**	d	**87**	a
8	d	**28**	c	**48**	c	**68**	a	**88**	b
9	a	**29**	d	**49**	b	**69**	a	**89**	c
10	a	**30**	c	**50**	c	**70**	c	**90**	d
11	a	**31**	b	**51**	b	**71**	b	**91**	a
12	c	**32**	d	**52**	c	**72**	c	**92**	b
13	a	**33**	a	**53**	b	**73**	a	**93**	d
14	d	**34**	a	**54**	a	**74**	c	**94**	a
15	c	**35**	c	**55**	c	**75**	a	**95**	c
16	c	**36**	a	**56**	c	**76**	a	**96**	d
17	d	**37**	d	**57**	b	**77**	b	**97**	b
18	a	**38**	a	**58**	d	**78**	b	**98**	d
19	c	**39**	c	**59**	d	**79**	b	**99**	b
20	c	**40**	a	**60**	c	**80**	d	**100**	c

PHARMACOLOGY

1. A dog with multiple untreated gastric ulcers was treated by owner with an over the counter drug. Within few minutes, the dog develops bloated stomach, severe pain and the endoscopy confirmed that the lesions have been stretched apart resulting in profuse bleeding. Which of the following over the counter drugs was administered to the dog?

a. An Aluminum salt
b. Sodium Bicarbonate
c. Ranitidine
d. All of the above

2. Which of the following is classified both as antihypertensive and antiarrhythmic drug?

a. Metoprolol
b. Phenytoin
c. Digoxin
d. None of these

3. Antihypertensive action of which of the following drugs involves activation of ATP-sensitive potassium channels of arteriolar smooth muscle to produce arteriolar dilation?

a. Nitroprusside
b. Diazoxide
c. Amlodipine
d. All of these

4. routinely used as tocolytics because:

a. They produce severe gastric ulceration.
b. They produce premature closure of ductus arteriosus.
c. They do not stop labor.
d. None of these.

5. Drug most appropriate for the treatment of motion sickness is

a. Hyocine butylbromide
b. Ondansetron
c. Metoclopramide
d. Hyocine

6. …… is the species ideal for studying organophosphate induced delayed polyneuropathy.

a. Hen
b. Wistar rat
c. Dog
d. Sheep

7. Ryanodine receptors serve as the probable targets of action for…..

a. Flubendiamide
b. Fipronil
c. Imidacloprid
d. Metaldehyde

8. The drug of choice for the treatment of digitalis toxicity is.

a. Metoprolol
b. Labitolol
c. Phenytoin
d. Digoxin

9. Which of the following diuretics can be used for the management of diabetes insipidus?

a. Furosemide
b. Acetazolamide
c. Chlorothiazide
d. All of these

10. An antihelmintic used as an immunostimulant is.

a. Albendazole
b. Oxyclozanide
c. Ivermectin
d. Levamisole

11. Basophilic stipling of RBS due to inhibition of enzyme 5' nucleotidase is produced by

a. Lead
b. Mercury
c. Pyrethrin
d. Iron

12. The anesthetic recovery for which of these barbiturates is depending mainly on the metabolism of the drug rather than redistribution to adipose tissue

a. Thiopentone
b. Pentobarbitone
c. Thiamylal
d. None of these

13. Which of these drugs is used to control absence seizures?

a. Phenobarbitone
b. Pentobarbitone
c. Ethosuximide
d. Diazepam

14. Which of these 2nd generation H-1 antagonists have been recently withdrawn from market after reporting cases of life threatening arrhythmias due to prolongation of QT interval?

a. Levocitrizine
b. Loratidine
c. Terfenadine
d. Fexofenadine the active drug of terfenadine

15. Cattle are susceptible to the toxicity of suxamethonium because they are deficient in

a. UDP-GA transferase activity
b. Butrylcholinesterase activity
c. Both a and b
d. None of these since cattle are resistant to the toxicity of suxamethonium

16. Lipoxygenase inhibitor is

a. Meloxicam
b. Zaferleukast
c. Sodium chromoglycate
d. Ziluton

17. Ototoxic antimicrobial is

a. Azithromycin
b. Gentamycin
c. Both a and b
d. Amoxycillin

18. Bone marrow dyscrasia is caused by

a. Florfenicol
b. Pencillin G
c. Pencillin V
d. None of these

19. Superbug is

a. A strain of bacteria that has become sensitive to all antibiotic drugs
b. A strain of bacteria that has become resistant to antibiotic drugs
c. A drug with 100% cure rate
d. A drug resistant to all bacteria

20. The fluoroquinolone that is highly effective against Pseudomonas aeruginosa is

a. Ciprofloxacin
b. Enoxacin
c. Ofloxacin
d. Levofloxacin

KEY
1 b Sodium Bicarbonate
2: a Metoprolol
3: b Diazoxide
4: b They produce premature closure of ductus arteriosus
5: d Hyocine
6: a Hen
7: a Flubendamide
8: c Phenytoin
9: c Chlorthiazide
10: d Levamisole
11: a Lead
12: b Pentobarbitone
13: c Ethosuximide
14: c Terfenadine
15: b Butrylcholinesterase activity
16: b Zaferleukast
17: c Both a and b
18: d
19: b A strain of bacteria that has become resistant to antibiotic drugs
20: a Ciprofloxacin

PHARMACOLOGY -II

Q.1. The binding of drugs to receptors involves:

1. Ionic bond
2. Hydrogen bond
3. Vander Waals force
4. All of the above

Q.2. Which of the following is the example of competitive antagonism:

1. Neutralization of heparin by protamine
2. Chelating of heavy metal by dimercaprol
3. Blockade of muscarinic receptors by atropine.
4. Bockade of AChE by malathion

Q.3. Kinetic parameters required to calculate amount of a single dose of a drug are

1. Half- life and Volume of distribution
2. Distribution constant and Volume of distribution
3. Elimination constant and Volume of distribution
4. Drug plasma conc. and Volume of distribution

Q. 4. Which of the following is the correct order depicting plasma solubility:

1. Nitrousoxide>ether>isoflurane> halothane
2. Halothane>isoflurane>ether>nitrousoxide
3. Ether>nitrousoxide>isoflurane> halothane
4. IsofluraneNitrousoxide> halothane>ether

Q. 5. Identify the anaesthetic that increases CNS irritability :

1. Halothane
2. Enflurane
3. Fentanyl
4. Diazepam

Q. 6. Identify the incorrect matching:

1. Propofol : Steroidal anaesthetic
2. 4-AP : CNS stimulant
3. Phencyclidine : Cataleptic agent
4. Phenobarbintone : Long acting barbiturate

Q.7. Which of the following is selective Etorphine antagonist:

1. Naloxone
2. Nalorphine
3. Diprenorphine
4. All of the above

Q.8. Which of the following deals with the development of tailor made drugs:

1. Pharmacogenomics
2. Metrology
3. Pharmacometrics
4. Pharmacy

Q.9. A suppressor of hepatic microsomal metabolizing enzymes is

1. Phenobarbitone
2. Pethidine

3. Phenytoin
4. Chloramphenicol

Q.10. Dank's formulation is prepared by combining:

1. Fentanyl and Droperidol
2. Fentanyl and Haloperidol
3. Chloral hydrate and Magnesium sulphate
4. Chloral hydrate, Magnesium.sulphate and Pentobarbitone

Q.11. 'A drug will not work unless it is bound' was concluded by:

1. Langley
2. Galen
3. Orifila
4. Ehrlich

Q.12. Thiopentone is metabolized to pentobarbitoneby :

1. Desulfuration
2. Sulfoxidation
3. Oxidation
4. Reduction

Q.13. Two-compartment kinetics of drugs is based on :

1. First orderkinetics
2. Zeroorderkinetics
3. None of the above
4. Both of the above

Q.14. Which of the following is one of the most potent inhalant anesthetic::

1. Methoxyflurane
2. Isoflurane
3. Enflurane
4. Halothane.

Q.15. Identify the incorrect matching :

1. Phenobarbitone sodium- Long acting barbiturate
2. Methohexital sodium- Intermediate acting barbiturate
3. Secobarbital sodium - Short acting barbiturate
4. Thiopentobarbitone sodium - Ultra-short acting barbiturate

Q.16. Identify the correct matching:

1. Medetomidine : α2 adrenergic agonist
2. Yohimbine : α2 adrenergic agonist
3. Xylazine : α2 adrenergic antagonist
4. Detomidine : α2 adrenergic antagonist

Q.17. Which of the following alkaloids in opium has convulsant activity:

1. Morphine
2. Codeine
3. Papaverine
4. Thebaine

Q.18. Renal tubular reabsorption of drugs is based on the :

1. pH of renal filtrate
2. pKa of drug
3. Degree of ionization of the drug
4. All of the above

Q.19. The rate theory of drug action was introduced by:

1. W.D.M. Paton
2. A.J. Clarke
3. C. Bernard
4. S.L. Miller

Q.20. Local anesthetics produce their action by blocking the conductance of ----- channels.

1. Sodium
2. Potassium
3. Chloride
4. All of the above

Q.21. G-Proteins are bound to---------in the cells.

1.Endoplasmic reticulum in the cytoplasm
2.Cytoplasmic surface of cell membrane
3.Nucleolar membrane
4.Extracellular surface of the cell

Q.22. Which of the following is not required for oxidative reaction by MFOs:

1. Cyt P450
2. Oxygen
3. Reduced NADP
4. H2O

Q.23. A low extent sulphate conjugation of aryl amines occurs in

1. Dog
2. Pig
3. Horse
4. Cat

Q.24. If combined effect of two drugs is more than the sum of their individual effect, then these two drugs are said to be

1. Additive
2. Potentiative
3. Antagonistic
4. None of the above

Q.25. Subunit of G-Protein coupled receptors is composed of ----------domains.

1. Five
2. Six
3. Seven
4. Four

Q.26. Identify the incorrect matching :

1. Glucuronidation : UDPGA
2. Sulphate conjugation : PAP
3. Methylation : SAM
4. Amino acid Conjugation : GSH

Q.27. The drug with the following therapeutic index will have widest margin of safety:

1. 4.0
2. 5.0
3. 3.0
4. 4.5

Q.28. Weak acidic or basic drug are transported across membranes efficiently by :

1. Active transport
2. Facilitated carrier mediated
3. Simple diffusion
4. Ionic trapping

Q.29. Adenylyl cyclase isozymesare modulated by G-Protein----subunits:

1. β α λ subunits
2. β λ subunits
3. α λ subunits
4. β α subunits

Q.30. If at a moment the total amount of a drug in the body is 10 g and plasma concentration is 125 µg/ml, the Vd of the drug will be .

1. 8 L
2. 40 L
3. 16 L
4. 80 L

Q.31. Which of the following metabolizing reaction has maximum contribution in Phase II metabolism of the drugs:

1. Glucuronidation
2. Acetylation
3. Methylation
4. Sulphation

Q.32. Which of the following receptors is located intracellularly:

1. Opioid µ receptors
2. Prostaglandin receptor
3. Angiotensin receptor
4. Steroid receptors

Q.33. Following acts as second messenger in signal transduction except:

1. cAMP
2. DAG
3. G protein
4. IP3

Q.34. Continuous stimulation of cells by agonists may result in state of :

1. Desensitization
2. Refractoriness
3. Down-regulation
4. All of the above

Q.35. The antidotal action of sodium nitrite in cyanide poisoning is based on

1. Physical antagonism
2. Chemical antagonisms
3. Physiological antagonism
4. Noncompetitive antagonism

Q.36. Glutamate and aspartate neurotransmitters are found in very high concentration in

1. Brain
2. Spinal cord
3. Mesenteric neurons
4. Neuromuscular junctions

Q.37. If the dose response curves of a drug for producing different actions are widely separated on the dose axis, the drug is .

1. Highly selective
2. Highly efficacious
3. Highly toxic
4. Highly potent

Q.38. Which of the following is a selective agonist of GABA transmitter:

1. Isoguvacine
2. Bicuculline
3. Picrotoxin
4. Guvacine

Q.39. Identify the correct matching:

1.Diflunisal : Salicylate
2.Ibuprofen : Pyrazolone
3.Sulindac : Fenamates
4.Indomethacin : Propionic acid

Q.40. A selective inhibitor of COX2:

1. Nimesulide
2. Etodolac
3. Celecoxib
4. All of the abaove

Q.41. Each ml of 'Innovar-Vet' contains

1. Fentanyl 0.4mg and Droperidol 20mg.
2. Fentanyl 20mg and Droperidol 0.4mg.
3. Etorphine 2.45mg and Acepromazine 10 mg.
4. Etorphine 10mg and Acepromazine 2.45 mg

Q.42. The most appropriate mechanism to inhibit PG synthesis by aspirin is:

1. By reversible inhibition of COX-2 and irreversible inhibition of COX-1
2. By reversible inhibition of COX-1 and irreversible inhibition of COX-2
3. By acetylating serine of COX-1 at 516 position and of COX-2 at 530 position
4. By acetylating serine of COX-1 at 530 position and of COX-2 at 516 position

Q.43. Which of the following NSAIDs has least gastric toxicity:

1. A selective COX-1 inhibitor
2. A selctive COX-1 and COX-2 inhibitor
3. A selective COX-2 inhibitor
4. All of the above

Q.44. The constituents of APC are:

1. Acetaminophen, Phenacetin andCaffeine
2. Acetanilid, Paracetamol andCaffeine
3. Aspirin, Phenacetin and Caffeine
4. Aspirin, paracetamol and Caffeine

Q.45. Benzodiazepines produce their action by increasing the conductance of -----ions.

1. Sodium
2. Potassium
3. Chloride
4. Calcium

Q.46. Straub tail reaction in rats is a characteristic diagnostic phenomenon of:

1. Atropine
2. Morphine
3. Acepromazine
4. Aspirin

Q.47. Which is prerequisite for localanaesthetics:

1. An aromatic group
2. An amino group
3. Ester or amide intermediate chain
4. All of the above

Q.48. The following drugs produce their action through GABAA – benzodiazepine receptor-Cl^- channel except:

1. Baclofen
2. Zolpedam
3. Bicuculline
4. Phenobarbitone

Q.49. Following is a selective MAO-B inhibitor :

1. Selegine
2. Clorgiline
3. Moclobomide
4. Flumezanil

Q.50. Which of the following antianxiety drug has H1 antagonistic action:

1. Clomipramine
2. Hydroxyzine
3. Tianeptine
4. Trazadone

Q.51 . Chemically, calomel is

1. Mercuric chloride
2. Sod. Molybdate
3. Ammonium sulphate
4. Mercurous chloride

Q.52. Secondary photosensitization in Lantana poisoning occurs due to:

1. Toxemic jaundice
2. Biliary jaundice
3. Obstructive jaundice
4. **None of the above.**

Q.53. Arsenic inhibits the decarboxylation of :

1. Pyruvate
2. Ketoglutamate
3. Ketobutyrate
4. All of the above.

Q.54. One of the following enzymes is not involved in phase II metabolism of toxicants.

1. Cyt P_{450} dependent monooxygenase
2. Glucuronyl transferase
3. Glutathione –S-transferase
4. Sulfotransferase

Q.55. 'Spectacled eye' appearance is seen in poisoning of:

1. Copper
2. Molybdenum
3. Selenium
4. Thallium

Q.No.	Answer
1.	FOUR
2.	THREE
3.	FOUR
4.	TWO
5.	TWO
6.	ONE
7.	THREE
8.	ONE
9.	FOUR
10.	THREE
11.	FOUR
12.	ONE
13.	ONE
14.	ONE
15.	TWO
16.	ONE
17.	FOUR
18.	FOUR
19.	ONE
20.	FOUR
21.	ONE
22.	FOUR
23.	TWO
24.	FOUR
25.	FOUR
26.	FOUR
27.	TWO
28.	FOUR
29.	TWO
30.	FOUR
31.	ONE
32.	FOUR
33.	THREE
34.	FOUR
35.	TWO
36.	ONE
37.	ONE
38.	ONE
39.	ONE
40.	FOUR
41.	ONE
42.	FOUR
43.	THREE
44.	THREE

45.	THREE
46.	TWO
47.	FOUR
48.	ONE
49.	ONE
50.	TWO
51.	FOUR
52.	THREE
53.	FOUR
54.	ONE
55.	TWO

PHYSIOLOGY-I

Q1: The fern pattern of cervical mucus during estrus is associated with.
a. High sodium content
b. High potassium content
c. High chloride content
d. None

Q2: Which of the following is true regarding estrogens.
a. Luteotrophic in cow and luteolytic in sow
b. Luteotrophic in sow and luteolytic in cow
c. Luteotrophic in both
d. Luteolytic in both

Q3: Dorper is the breed of.
a. Goat
b. Sheep
c. Cattle
d. Horse

Q4: Gonadocrinin is produced by.
a. Sertoli cells
b. Ovary
c. Adrenal cortex
d. Adrenal medulla

Q5: Endocrine exocrine model of maternal recognition of pregnancy is observed in.
a. Cow
b. Pig
c. Horse
d. Dog

Q6: Which of the following shifts oxygen hemoglobin dissociation curve to left.
a. Rise in temperature and rise in pH
b. Decrease in temperature and rise in pH
c. Increase in 2,3-DPG and rise in pH
d. Decrease in 2,3-DPG and decrease in pH

Q7: Smooth muscle lacks.
a. Actin
b. Myosin
c. Troponin
d. Tropomyosin

Q8: The term "brain of the gut" refers to.
a. Autonomic ganglia
b. Enteric nervous system
c. Migratory motor complex
d. Cells of Cajal

Q9: Mareys heart law states.

a. When blood pressure increases, heart rate increases
b. When blood pressure increases, heart rate decreases
c. When blood pressure decreases, heart rate decreases
d. None

Q10: The retention of free water by ADH in the collecting duct is mediated mainly by.

a. AQP-1
b. AQP-2
c. AQP-3
d. AQP-4

Q11: Conduction speed is slowest in the.

a. SA node
b. Bundle of His
c. Atrial pathway
d. Purkinje system

……

Key:

1. **C**
2. **B**
3. **B**
4. **A**
5. **B**
6. **B**
7. **C**
8. **B**
9. **B**
10. **B**
11. **A**

PHYSIOLOGY-II

1. The most part of the digestive tract receives parasympathetic innervations through
   a. Vagus nerve
   b. Trigeminal nerve
   c. Glossopharyngeal nerve
   d. Facial nerve
2. Calcium sensitive protein is sarcomere is
   a. Actin
   b. Troponin
   c. Myosin
   d. Tropomyosin
3. Which of the following is not always a component of a reflex arc?
   a. Receptor
   b. Sensory neuron
   c. CNS interneuron
   d. Motor neuron
4. Which of the following describes the electrical state of neuron at rest?
   a. The inside neuron is more negatively charged than the outside
   b. The outside of the neuron is more negatively charged than the inside
   c. Potassium ions leak into the inside of neuron
   d. The inside and outside of the neuron has same electrical charge.
5. During inspiration which of the following events take place
   a. Diaphragm relaxes and curves in
   b. Rib-cage is lowered by muscle contraction
   c. Diaphragm contracts and straightens
   d. Abdominal muscles are contracted
6. The ruminant saliva does not contain
   a. Bicarbonate
   b. Salivary Amylase
   c. Phosphate
   d. Urea
7. Medulla of adrenal gland primarily presents
   a. Presynaptic neurons of sympathetic nervous system
   b. Post synaptic neurons of Parasympathetic nervous system
   c. Post synaptic neurons of sympathetic nervous system
   d. All of the above.
8. Posterior pituitary hormones are
   a. Nano peptide
   b. Amines
   c. Glycoproteins
   d. Steroids
9. Hyperthyroidism may lead to
   a. Cretin
   b. Addison's disease
   c. Exophthalmia
   d. Moon face
10. Chemical nature of LH & FSH is
    a. Lipoprotein
    b. Glycoprotein
    c. Steroid
    d. Both a &b
11. Lack of Vasopressin leads to
    a. Diabetes Mellitus
    b. Hypertension
    c. Addison disease
    d. Diabetes Incipidus
12. Which of the following enzyme is responsible for conversion of testosterone to estrogen during gonadal development?
    a. Aromatase
    b. 5 Alfa Reductase
    c. Gyrase
    d None of the above

13. Formation of glomerular filtrate is inversely proportional to
    a. Oncotic pressure of the fluid within the Bowman's space
    b. Hydrostatic pressure of blood inside the glomerular capillaries
    c. Hydrostatic pressure in Bowman's space
    d. None of these
14. Macula densa is a part of
    a. Afferent arteriole
    b. Efferent arteriole
    c. Distal Convoluted Tubule
    d. Proximal Convoluted Tubule
15. Volume of blood in the ventricles at the closure of AV valves is
    a. End Diastolic Volume
    b. Stroke volume
    c. End Systolic Volume
    d. Ejection Volume
16. Parasympathetic stimulation of heart causes
    a. Increased excitability of AV junctional fibres
    b. Increased ventricular contraction
    c. Decreased impulse rate of SA Node
    d. None of the above
17. Among the domestic animals, the highest number of RBC/ unit volume is found in
    a. Dog
    b. Horse
    c. Cattle
    d. Goat
18. In which of the following conditions bleeding disease occurs.
    a. Haemophilia
    b. Vitamin K deficiency
    c. Thrombocytopenia
    d. All of the above
19. Patients with partial gasterectomy require administration of
    a. Vitamin B12
    b. HCl
    c. Vitamin C
    d. Gastrin
20. Atrial Systole contribute to end diastolic volume by
    a. 50 %
    b. 25%
    c. 75%
    d. 5%

Key:

1. A.	2. B	3. C	4. A	5. C	6. B	7. C
8. A	9. C	10. B	11. D	12. A	13. C	14. C
15. A	16. C	17. D	18. D	19. A	20. B	

PHYSIOLOGY-III

Q1: Bilaterally cryptorchid males are associated with.
a. Normal edocrine function of testisand are fertile
b. Abnormal edocrine function of testis and are sterile
c. Normal edocrine function of testisand are sterile
d. None of the above

Q2: Ergothioneine is present in the ejaculate of.
a. Dog
b. Ram
c. Horse
d. Ox

Q3: Ovulation fossa is present in the ovary of.
a. Horse
b. Dog
c. Pig
d. Cattle

Q4: In sexually undifferentiated embryos, the one which develop into males has.
a. Wolffian duct
b. Mullerian duct
c. Both
d. None

Q5: The secretory activity of CL is not required throughout pregnancy in mare because.
a. Placenta takes over the function of CL
b. Progesterone is not required for pregnancy maintenance
c. Progesterone is secreted by ovary
d. None of the above

Q6: The fern pattern of cervical mucus during estrus is associated with.
e. High sodium content
f. High potassium content
g. High chloride content
h. None

Q7: Which of the following has androgen activity.
a. 19 carbon steroid
b. 18 carbon steroid
c. 21 carbon steroid
d. 27 carbon steroid

Q8: Which of the following is true regarding estrogens.
e. Luteotrophic in cow and luteolytic in sow
f. Luteotrophic in sow and luteolytic in cow
g. Luteotrophic in both
h. Luteolytic in both

Q9: Dorper is the breed of.
e. Goat
f. Sheep
g. Cattle
h. Horse

Q10: Sperm reservoir in female reproductive tract in dogs is.
a. Uterotubal junction
b. Endometrial glands
c. Both
d. None

Q11: Highest protein content is present in the sperm of.
a. Ram
b. Boar
c. Bull
d. Stallion

Q12: The removal of which glycoprotein from uterine epithelial surface is necessary for the implantation of conceptus.
a. Muc-1
b. Mucin
c. Integrin
d. All

Q13: Gonadocrinin is produced by.
a. Sertoli cells
b. Ovary
c. Adrenal cortex
d. Adrenal medulla

Q14: Which of the following is true regarding AI.
a. Control veneral diseases
b. Genetic improvement
c. Both
d. None

Q15: First embryo transfer in goat was done by.
a. Heape
b. Willette
c. Warwick and Berry
d. Oyuri and Tsutsumi

Q16: which of the following is not the constituent of vetrification solution.
a. Ethylene glycol
b. Ficoll
c. Sucrose
d. Trypsin

Q17: First successful cryopreservation of embryo in goat was done by.
a. Billton and Moore
b. Wilmut and Rowson
c. Bank and Maurer
d. None

Q18: Endocrine exocrine model of maternal recognition of pregnancy is observed in.
a. Cow
b. Pig
c. Horse
d. Dog

Q19: Which of the following shifts oxygen hemoglobin dissociation curve to left.
a. Rise in temperature and rise in pH
b. Decrease in temperature and rise in pH
c. Increase in 2,3-DPG and rise in pH
d. Decrease in 2,3-DPG and decrease in pH

Q20: Which of the following is associated with rise in H^+ concentration arterial blood.
a. Increase in respiration
b. Decrease in respiration
c. Has no effect on respiration
d. Both a and b

Q21: Collapse of alveoli is known as.
a. Emphysema
b. Atelectasis
c. Dysplasia
d. None

Q22: Pneumotaxic center is located in.
a. Pons
b. Medulla
c. Both
d. None

Q23: Hemophilia B or Christmas disease is caused by the deficiency of factor.
a. VIII
b. IX
c. X
d. XI

Q24: Which of the following is false regarding thrombomodulin.
a. Thrombin binding protein
b. Prevents intravascular coagulatiuon
c. Activates protein C
d. None

Q25: Smooth muscle lacks.
a. Actin
b. Myosin
c. Troponin
d. Tropomyosin

Q26: The latch-bridge mechanism in smooth muscle is responsible for.
a. Fast muscle twitch
b. Sustained muscle contraction
c. Excitation-contraction coupling
d. Unstable membrane potential

Q27: Glucocorticoids decrease the number of circulating.
a. Platelets
b. Lymphocytes
c. RBCs
d. None

Q28: The term "brain of the gut" refers to.
a. Autonomic ganglia
b. Enteric nervous system
c. Migratory motor complex
d. Cells of Cajal

Q29: The type of contraction that normally occours only in the colon.
a. Peristalsis
b. Antiperistalsis
c. Segmentation
d. All

Q30: Which of the following is physiologically most important choleretics.
a. Bile salt
b. CCK
c. Secretin
d. Gastrin

Q31: Red cell antigen A and B are chemically.
a. Phospholipids
b. Glycosphingolipids
c. Glycopeptides
d. Polypeptides

Q32: The maximum pressure rise in the ventricle occurs during.
a. Ejection
b. Isovolumic contraction
c. Protodiastole
d. Diastasis

Q33: Which of the following is not vasodilator.
a. Adenosine
b. K^+ ions
c. H^+ ions
d. Endothelin

Q34: Mareys heart law states.
a. When blood pressure increases, heart rate increases
b. When blood pressure increases, heart rate decreases
c. When blood pressure decreases, heart rate decreases
d. None

Q35: The maximum amount of gas that can be exhaled after a full inspiration is called.
a. Expiratory reserve volume
b. Total lung capacity
c. Vital capacity
d. Functional residual capacity

Q36: The major buffer of carbon dioxide in the blood is.
a. Bicarbonate
b. Albumin
c. Hemoglobin
d. Phosphate

Q37: The decrease in oxygen affinity of hemoglobin when the pH of blood in tissue falls is known as.

a. Haldane effect
b. Bohr effect
c. Hamburger phenomenon
d. None

Q38: In the nephron, glucose reabsorption occurs mainly in the.

a. PCT
b. DCT
c. Collecting ducts
d. Loop of Henle

Q39: The diluting segment of the nephron is.

a. PCT
b. Descending limb of loop
c. Ascending limb of loop
d. Collecting duct

Q40: The retention of free water by ADH in the collecting duct is mediated mainly by.

a. AQP-1
b. AQP-2
c. AQP-3
d. AQP-4

Q41: The blood testis barrier is formed by tight junctions between.

a. Leydig cells
b. Sertoli cells
c. Primary spermatocyte
d. Spermatogonia

Q42: The “last ditch stand” in defense of falling blood pressure is.

a. Arterial baroreflex mechanism
b. Arterial chemoreflex mechanism
c. CNS ischemic response
d. Bainbridge reflex

Q43: Conduction speed is slowest in the.

a. SA node
b. Bundle of His
c. Atrial pathway
d. Purkinje system

Q44: Cytotoxic T- cells are commonly called as.

a. CD8+
b. CD4+
c. Both
d. None

Q45: Removal of liver is fatal because.

a. Blood urea rises
b. Jaundice develops
c. Clotting time is prolonged
d. Hypoglycemia develops

Q46: Insulin dependent glucose uptake into skeletal muscle is mainly mediated by.

a. GLUT-1
b. GLUT-2
c. GLUT-3
d. GLUT-4

Q47: Sperm cells first acquire the ability to remove forward (progressive motility) in the.

a. Seminiferous tubules
b. Epididymis
c. Rete testis
d. Female genital tract

Q48: Slow waves in the GIT are initiated by.

a. Cells of Cajal
b. I cells
c. K cells
d. S cells

Q49: A class of antibodies that is produced first in all immune responses is.

a. IgA
b. IgE
c. IgG
d. IgM

Q50: An autoimmune disease called multiple sclerosis affects.

a. Skin
b. Myelin
c. Muscle
d. Joints

……

Key:

1.c 2.c3.a4.c5.a6.c 7.a 8.b 9.b 10.b
11.c12.a 13.a 14.c15.c16.d17.a18.b19.b20.a
21.b22.a 23.b24.d 25.c26.b 27.b28.b29.b30.a
31.b32.b 33.d34.b35.b36.c37.a38.a39.c40.b
41.b 42.c43.a44.a 45.c46.d47.b48.c49.d50.b

POULTRY SCIENCE

1. _____ is the first synthetic chicken variety released in 1989 suitable for backyard rearing
   a) Gramaptiya
   b) Kuroiler
   c) Vnaraja
   d) Giriraja

2. Which of these is not a fowl comb variety
   a) Strawberry
   b) Pea
   c) Almond
   d) Walnut

3. As per BIS specification, broiler finisher diet must have ___ % crude protein
   a) 18
   b) 20
   c) 22
   d) 23

4. The incubation period of a Turkey egg is
   a) 21 days
   b) 25 days
   c) 28 days
   d) 35 days

5. _____ is a meat type hybrid chicken
   a) Hubbard
   b) Keystone
   c) Babcock
   d) Lohmann

6. Keet is a young one of
   a) Geese
   b) Guinea fowl
   c) Turkey
   d) Quail

7. _____ breed of chicken belongs to English class
   a) Wyandotte
   b) Leghorn
   c) Langshan
   d) Cornish

8. The root of fowl feather is called
   a) Rachis
   b) Calamus
   c) Quill
   d) None of these

9. The nucleus of a fertile chicken egg is called
   a) Blastodisc
   b) Germ disc
   c) Germ spot
   d) None of these

10. The layer chicken mash should contain ___ % crude protein
   a) 14
   b) 16
   c) 18
   d) 20

11. ____ is used for inducing forced moulting in layer chicken
   a) Zinc
   b) Iodine
   c) Aluminum
   d) All of these

ANSWER KEY

Q. No	Answer
1	D
2	C
3	B
4	C
5	A
6	B
7	D
8	B
9	B
10	C
11	D

VETERINARY PUBLIC HEALTH -I

1. The evolution of new subtypes of Influenza virus (swine/bird flu) resulting in epidemics and pandemics is typically due to:
   a. Antigenic drift b. Antigenic shift
   c. Deletion d. Point mutation
2. The recent epidemics of swine flu in India are caused by ____ strain of Influenza virus:
   a. H5N1 b. H3N8
   c. H1N5 d. H1N1
3. The following disease(s) is transmitted by mosquito bite
   a. Rift valley fever b. Yellow fever
   c. Dengue Fever d. All of above
4. Chlonorchiasis is a
   a. Cyclozoonoses b. Metazoonoses type I
   c. Metazoonoses type II d. Metazoonoses type III
5. Transmission of Cyclozoonotic diseases require:
   a. One vertebrate host b. Two vertebrate hosts
   c. One vertebrate and one invertebrate host d. Two vertebrate and one invertebrate host
6. Plague is a
   a. Metazoonoses Type-I b. Metazoonoses Type II
   c. Metazoonoses Type III d. Metazoonoses Type-IV
7. The diseases of Type-II Metazoonoses require
   a. One vertebrate host
   b. One vertebrate and one invertebrate host
   c. One vertebrate and two invertebrate hosts
   d. Two vertebrates and one invertebrate host
8. Every year the world zoonoses day is celebrated on
   a. 6^{th} June b. 6^{th} July
   c. 6^{th} August d. 6^{th} September
9. Diseases transmitted through organs transplanted from animals, are called:
   a. Allozoonoses b. Autozoonoses
   c. Xenozoonoses d. Heamozoonoses
10. Diseases primarily transmitted from the lower vertebrate animals to human beings are called
   a. Anthropozoonoses b. Zooanthropozoonoses
   c. Amphizoonoses d. Metazoonoses
11. Which one is the obligatory cyclozoonosis
   a. *Taenia solium* b. *Echinococcus granulosus*
   c. *Toxoplasma gondii* d. VLM
12. Transmission of *Trypanosoma cruzi* is a type of
   a). Mechanical b). Propogative
   c). Developmental d). Cyclopropogative

13. If a zoonotic pathogen multiplies in the vehicle before being injected into the host, then the type of transmission is

a). Mechanical Transmission b). Propogative Transmission
c). Developmental Transmission d). cyclopropogative Transmission

14. Secondary prevention measures are

a). Qurantine and vaccination b). Identification and isolation
c). Diagnosis and treatment d). Test and slaughter

15. Psittacosis/ornithosis is transmitted from

a. Birds b. Dogs
c. Cats d. Ornamental fishes

16. Yersiniosis is associated with

a. Cats b. Pigs
c. Guinea pigs d. Rabbits

17. Rats are known to harbor and shed which one of the following pathogen for long period of time

a. *Brucella suis* b. *Lyssa* virus
c. *Toxoplasma gondii* d. *Leptospira interrogans*

18. Death due rabies is because of

a. Death of the brain b. Impairments of nervous system
c. Respiratory paralysis d. Hydrophobia

19. According to WHO/CDC Category-I exposure to rabies include

a. Touching or feeding suspect animals, but skin is intact
b. Minor scratches without bleeding from contact, or licks on broken skin
c. One or more bites, scratches, licks on broken skin, or other contact that breaks the skin; or exposure to bats
d. All the above

20. The vector responsible for the transmission of Kyasanur forest disease is:

a. *Rhipicephalus sanguineus* b. *Haemaphysalis spinigera*
c. *Culex tritaeniorhynchus* d. *Aedes agypt*

21. Pathogenic Leptospires are grouped under

a. *Leptospira biflexa* b. *Leptospira hardjo*
c. *Leptospira canicola* d. *Leptospira interrogans*

22. BCG vaccine is prepared from

a. *Mycobacterium bovis* b. *Mycobacterium avium*
c. *Mycobacterium phlei* d. *Mycobacterium tuberculosis*

23. The causative agent of Plague is

a. *Listeria monocytogenes* b. *Yersinia pestis*
c. *Cholera suis* d. *Mycobacterium leprae*

24. The withdrawl period (common) of milk for most of the parenteraly used antibiotics is

a. 24-48 hrs b. 48-72 hrs
c. 72-96 hrs d. 96-120 hrs

25. According to CDC in human beings, already with preexposure vaccination, if bitten, the post exposure vaccination should be carried on:

a. 0 and 3 day b.0, 3 and 7 day
c. 0, 3, 7, and 14 day d. 0, 3, 7, 14, and 28 day

26. The lue color in milk can be due to contamination by:
    a. *Pseudomonas syncayanae* b. *Micrococcus roseus*
    c. *Rhodococcus equi* d. *Mucor spp.*
27. According to Milk and Milk products order, the dairy plants handling _____ liters of liquid milk per day are required to Register under state authorities:
    a. 1000-7500 Lts/day b. 10000-75000 Lts/day
    c. more than 75000 Lts/day d. None of the above
28. According to BIS the total viable count of pasteurized milk, should not exceed:
    a. 10000 cfu/ml b. 20000 cfu/ml
    c. 30000 cfu/ml d. 40000 cfu/ml
29. According to BIS the Methylene blue reduction time of pasteurized milk, should be more than:
    a. 1 hr b. 2 hrs
    c. 3 hrs d. 4 hrs
30. The ionic component of lcatoperoxidase system which mainly possesses the germicidal properties in milk is:
    a. Hydrogen Peroxide b. Thiocynate
    b. Hypothiocyante d. Cyanosulphurous acid
31. The example of milk borne intoxication is/are;
    a. Botulism b. *Staphylococcus aureus*
    c. Aspergilosis d. All of the above
32. The Pale Soft Exudative (PSE) condition is commonly encountered in meat of which species
    a. Pig b. bovine
    c. Sheep d. goat
33. The effective size of sand particles in rapid sand filters is
    a. 0.1-0.2 mm b. 0.2-0.3 mm
    c. 0.4-0.7 mm d. 0.6-0.9 mm
34. The sand bed in slow sand filter is cleaned by
    a. Scrapping b. Backwashing
    c. High Pressure d. All of the above
35. The serotype/strain of rabies virus isolated from bats in South Africa and Zimbabwe is:
    a. Duvenhage b. Koktonkan
    c. Obodhiang d. Mokola
36. In western Africa a special form of rabies (*oulou fato*) in dogs, is characterized by:
    a. Diarrhea b. Dumb form
    c. Furious form d. Both a and b
37. 17D vaccine is used against which disease:
    a. Rift Valley Fever b. Yellow Fever
    c. KFD d. Dengue Fever
38. Rift Valley Fever is absent in which country:
    a. India b. Egypt
    c. Saudi Arabia d. All of the above
39. Torniquet test is performed for the diagnosis of:
    a. Rift Valley Fever b. Yellow Fever
    c. KFD d. Dengue Fever

40. The optimum period for which river water must be stored before filtration is
    a. 3-5 days b. 5-10 days
    c. 10-15 days d. 15-20 days
41. For purification of water by rapid sand filters the alum is added @
    a. 5-10 mg/lit b. 5-40 mg/lit
    c. 40-80 mg/lit d. 80-120 mg/lit
42. The first UN's conference on human environment was held in the year
    a. 1872 b. 1972
    c. 1852 d. 1952
43. The preliminary treatment in rapid sand filters is
    a. Sedimentation b. Flocculation
    c. Coagulation d. Disinfection
44. The minimum concentration of free residual chlorine in water should be
    a. 0.5 mg/lit for 1 hour b. 1.5 mg/lit for 1 hour
    c. 0.3 mg/lit for 30 minutes d. 2 mg/lit for 2 hours
45. Storage of water results in purification by reason(s)
    a. Physical b. Chemical
    c. Biological d. All of the above
46. Low levels of fluoride in water leads to:
    a. Dental carries b. Dental fluorosis
    c. Skeletal fluorosis d. All of the above
47. The country/ies free of rabies infection is/are
    a) Barbados b) Jamaica
    c) Japan d) All of the above
48. The halogen most effective in destroying ozone layer is
    a. Chlorine b. Fluorine
    c. Bromine d. Iodine
49. Which among the following is example of Amphizoonoses
    a). *Staphylococcal* infection b). *Brucella* infection
    c). *Listerial* infection d). Rabies
50. Emerging zoonosis means
    a). Caused by apparently new etiological agents
    b). Caused by previously known agents appearing in places or in species in which the disease was previously unknown
    c). Both (a) & (b) correct
    d). None of them correct

Key

1	B
2	D
3	D
4	D
5	B
6	A
7	C
8	B
9	C
10	A
11	A
12	D
13	B
14	A
15	A
16	B
17	D
18	C
19	A
20	B
21	D
22	A
23	B
24	C
25	A
26	A
27	B
28	C
29	D
30	D
31	D
32	A
33	C
34	A
35	A
36	D
37	B
38	A
39	D
40	C
41	B
42	B
43	C
44	A

45	D
46	A
47	D
48	C
49	A
50	C

PUBLIC HEALTH

1. Shallow well taps water from
   A. Below the first impervious layer B. Above the first impervious layer
   C. Above the 2nd impervious layer D. None of these
2. Which of the following is soil borne disease?
   A. Tetanus B. Ascariasis
   C. Ancylostomiasis D. All of these
3. Mixture of smoke and fog is known as
   A. Mist C. Smust
   C. Smog D. None of these
4. Detection of Faecal *coliform* in water indicates
   A. Chronic Sewage pollution B. Recent Sewage pollution
   C . Continuous sewage pollution D. None of these
5. ADI stands for
   A. Adequate Daily intake B. Accessible Daily intake
   C. Acceptable Daily intake D. Average Daily intake
6. The total hardness of drinking water should be in between
   A. Less than 1 *mEq*/l (<50-150$CaCO_3$ mg/L) B. 1-3 *mEq*/l (50-150$CaCO_3$ mg/l)
   C. 3-6 *mEq*/l (150-300$CaCO_3$ mg/l) D. Over 6 *mEq*/l (>300$CaCO_3$ mg/l)
7. The main action of Chlorine in water purification is due to
   A. Hydrochloric acid B. Hypochlorus acid
   C. Hypochlorite ion d. None of these
8. The Head Quarter of NEERI (National environmental Engineering Research Institute) is situated in:
   A. Hyderabad B. Pune
   C. Nagpur D.Mumbai
9. The best Examples of Green house gases are
   A. CO_2 B. Methane
   C. CFC's D. All of these
10. The World Environment Day is Celebrated Every year on
   A. 5th April B. 5th May
   C. 5th June D. 5th July

Answer Key:

1. B
2. D
3. C
4. B
5. C
6. B
7. B
8. C
9. D
10. C

SURGERY	
1. The most common type of urolith in dogs is	
a) Cystine	b) Urate
c) Magnesium ammonium phosphate	d) Silicate
2. Which of the following urolith is radiolucent	
a) Cystine	**b) Urate**
c) Calcium oxalate	d) Magnesium ammonium phosphate
3. Branch of dentistry that deals with the irregularities of teeth and malocclusion is	
a) Prosthodontics	**b) Orthodontics**
c) Endodontics	d) Exodontics
4. The risk of mammary tumor for dogs spayed after first and second estrus cycle is	
a) 0, 8	**b) 8, 26**
c) 16, 34	d) 26, 52
5. Drug causing penile prolapsed in stallions is	
a) Diazepam	b) Ketamine
c) Acepromazine	d) Glycopyrrolate
6. Goose honk cough is seen in	
a) Tracheal collapse	b) Tracheal hypoplasia
c) Tracheal stenosis	d) None of the above
7. Chronic end stage proliferative otitis is treated with	
a) Vertical ear canal ablation	b) Horizontal ear canal ablation
c) Total ear canal ablation	d) Lateral bulla osteotomy
8. Mossu's and Golds methods are used for correction of	
a) **Teat fistula**	b) Teat fibrosis
c) Teat Leaker	d) Teat spider
9. Irreversibly damaged, hypotensive, and shrunken globe is known as	
a) Microphthamia	**b) Phthisis bulbi**
c) Buphthalmos	d) Endophthamlos
10. Choose the odd one out	
a) Lateral bulla osteotomy	b) Ventral bulla osteotomy
c) Myringotomy	**d) Zepp's procedure**
11. Palmar digital neurectomy is performed in	
a) Chronic Laminitis	b) Acute Laminits
c) Navicular Disease	d) Osselets

12. Slit lamp biomicroscope is primarily used for examination of	
a) Fundus	**b) Cornea**
c) Irideocorneal angle	d) Vitreous humor
13. Anterior uveitis is the inflammation of	
a) Chorioid and ciliary body	b) Choroid and iris
c) Iris and Ciliary body	d) Iris, Choroid and Ciliary body
14. Which of the following is used to visualize the funds of the eye	
a) Ophthalmoscope	b) Finoff transilluminator
c) Magnifying loupes	d) Slit lamp
15. Hemorrhage in the anterior chamber is known as	
a) Hyphema	b) Hypopyon
c) Coloboma	d) Uveitis
16. _____ is an inability to fully close the lids	
a) Blepharitis	b) Coloboma
c) Entropion	**d) Lagophthalmos**
17. Dilated pupils and fish eye appearance is observed in which stage of anaesthesia	
a) Stage 3	b) Stage 2
c) Stage 1	**d) Stage 4**
18. The smallest compartment of bovine stomach is	
a) Reticulum	b) Omasum
c) Abomasum	d) Rumen
19. Utrecht method is synonymous to	
a) Left flank abomasopexy	**b) Left flank omentopexy**
c) Right flank abomasopexy	d) Right flank omentopexy
20. Axial rotation of the mesentry and attached small intestine is termed as	
a) Intussusception	**b) Volvulus**
c) Torsion	d) None of the above
21. Content in the Vesicocele is	
a) Uterus	**b) Urinary bladder**
c) Omentum	d) Intestines
22. Wetness of the umbilicus with dribbling urine is	
a) Hypospadias	b) Urethral diverticulum
c) Pervious urachus	d) Epispadias
23. Bunnel Mayer suture is used for suturing	
a) Tendons	b) Rumen
c) Muscles	d) Aorta

24. Fracture most commonly seen in young animals	
a) Depression	b) Fissure
c) Green stick	d) Spiral
25. Montegia fracture is specifically involves	
a) Humerus and Shoulder	b) Tibia and Hock
c) Olecranon and elbow	d) Femur and Hip
26. Which of the following is highly inactivated in presence of organic material	
a) Iodophors	b) Triclosan
c) Hexachlorophene	d) Chlorohexidine
27. One percent of the energy produced at the anode is in the form of:	
a) Heat	**b) X-ray**
c) Sound	d) None of the above
28. If a dog is being radiographed for hip dysplasia, what phenomenon will occur if the femurs are not parallel to the film?	
a) Foreshortening	b) Elongation
c) Pnembra	d) Grid cut off
29. Which of the following statements is true?	
a) Screen film is more sensitive to ionizing radiation	b) Nonscreen film produces poorer detail
c) onscreen film is highly sensitive to fluorescent light emitted from intensifying screens	**d) Nonscreen film requires greater exposure**
30. Unexposed silver halide crystals remaining on thefilm are removed at this stage	
a) Rinsing or stop bath	b) Washing
c) Fixing	d) Developing
31. What is the optimal earliest time to detect pregnancy in small animals	
a) 17 days after the last breeding	b) 11 days after the last breeding
c) 48 days after the last breeding	**d) 30 days after the last breeding**
32. What is the most reliable and common way to diagnose hyperthyroidism in cats	
a) Computerized tomography	b) Ultrasonography
c) Radiography	**d) Nuclear scintigraphy**
33. The term second-gas effect refers to	
a) increased ventilation caused by nitrous oxide	b) displacement of oxygen from the alveoli by rapid escape of nitrous oxide from the bloodduring recovery from anesthesia
c) low arterial oxygen levels caused by fresh gas mixtures that are less than 95% oxygen	**d) the additive effect of inhalation anesthetics when given in combination with nitrous oxide**

34. Which species is most susceptible to the effects of xylazine	
a) Cat	b) Rabbit
c) Swine	**d) Cattle**
35. Which species is least susceptible to the effects of xylazine?	
a) Cat	b) Rabbit
c) Horse	**d) Swine**
36. Which pair of drugs are "amide" types of local anesthetics?	
a) procaine and mepivacaine	**b) lidocaine and bupivacaine**
c) procaine and bupivacaine	d) mepivacaine and chloroprocaine
37. What is the earliest stage of gestation at which mineralized fetal skeletons may be evident in abdominal radiographs of a pregnant female dog?	
a) 10to 19 days	b) 20 to 30 days
c) 40 to 45 days	d) 46 to 50 days
38. Concerning use of grids in veterinary radiology, which statemem is least accurate?	
a) Grids are placed between the x-ray film and the screens	b) Grids absorb any radiation traveling on a course not parallel to the primary x-ray beam
c) Grids are used to radiograph body parts thicker than approximately 10 cm	d) When grids are used, exposure factors must be increased
39. You obtain an ultrasound image of a renal calculus. The area deep to the calculus is Completely black. What term is used to describe this black artifact?	
a) Acoustic enhancement	**b) Acoustic shadowing**
c) Refraction artifact	d) Slice thickness artifact
40. Which suture size is smaller in diameter than 3-0	
a) 2-0	b) #3
c) 4-0	d) #4
41. Castration of healtlly6-month-old cat is an example of	
a) Cosmetic surgery	b) Elective surgery
c) Emergency surgery	d) Exploratory surgery
42. What is the correct term for creation of a permanent artificial opening into the esophagus	
a) Esophagectomy	b) Esophagopexy
c) Esophagostomy	d) Esophagposcopy
43. To be classified as nonabsorbable, suture material must maintain its tensile strength in tissue for longer than.	
a) 30 days	b) 90 days
c) 60 days	d) 120 days
44. Which of the following is a two beat lateral gait?	
a) Pace	b) trot
c) canter	d) gallop

45. Inflammation of the periosteum on the dorsal distal epiphyseal surface of the third metacarpal bone and the associated capsule of the fetlock joint is known as	
a) Osselets	b) Ringbone
c) Windpuff	d) gravel
46. Necrosis of the collateral cartilages is known as	
a) Side bone	b) Ring bone
c) Gravel	**d) Quittor**
47. Ossification of the collateral cartilages is known as	
a) Osselets	b) Quittor
c) Sidebone	d) Ringbone
48. Crural paralysis is also known as	
a) Fermoral nerve paralysis	b) Tibial nerve paralysis
c) Radial nerve paralysis	d) Peroneal nerve paralysis
49. Degenerative condition of the frog involving the central and lateral sulci is also called as	
a) Canker	b) Quittor
c) Thrush	d) Gravel
50. Chronic hypertrophic, moist pododermatitis of the epidermal tissues of the foot is	
a) Canker	b) Quittor
c) Thrush	d) Gravel

Key Bold case option is correct

SURGERY -II

1. Suturing of uterus in caesarean section should start from
A. Ovarian end B. Cervical end
C. Both D. None
2. Double bubble sign in radiograph is seen in which condition
A. Gastric dilatation B. Gastric dilatation and volvulus
C. Both D. None
3.Propofol anaesthesia recovery in dogs is
A. Slow and smooth B. Rapid and rough
C. Both D. None
4. Method of suturing in tendonrepair
A. Bunnel pattern B.Locking loop pattern
C. Both D. None
5. A clinical diagnosis of navicular disease can be made only if lameness is significantly improved by
a. Intra-articular anaesthesia of the DIP joint. B. Intra-articular anaesthesia of the PIP joint.
C. Both. D. None
6. Excess lacrimation may be caused by
A. Irritation of 6^{th} cranial nerve B. Irritation of 7^{th} cranial nerve
C. Both D. None
7. The diameter of intramedullary pin for intramedullary should be
A. 70 per cent of medullary cavity diameter B. 100 per cent of medullary cavitydiameter
C. Both D. None
8. Perineal hernia is mostly seen in
A. Female dogs B. Male dogs
C. Both D. None
9. Auricular palpebral block produces
A. Akinesia of orbicularis occuli muscle B. Anesthesia of orbicularis occuli muscle
C. Both D. none
10. Drawal sign is seen in which condition
A. Cranial cruciate rupture B. Caudal cruciate rupture
C. Both. D. None

Key

1. B	4. C	7.A	10. C
2. B	5. A	8. B	
3. D	6. B	9. A	

MIXED QUESTIONS

1. The fern pattern of cervical mucus during estrus is associated with
   A. High sodium content
   B. High potassium content
   C. High chloride content
   D. None of the above
2. Which of the following is true regarding estrogens
   A. Luteotrophic in cow and luteolytic in sow
   B. Luteotrophic in sow and luteolytic in cow
   C. Luteotrophic in both
   D. Luteolytic in both
3. Dorper is the breed of
   A. Goat
   B. Sheep
   C. Cattle
   D. Horse
4. Gonadocrinin is produced by
   A. Sertoli cells
   B. Ovary
   C. Adrenal cortex
   D. Adrenal medulla
5. Endocrine exocrine model of maternal recognition of pregnancy is observed in
   A. Cow
   B. Pig
   C. Horse
   D. Dog
6. Which of the following shifts oxygen hemoglobin dissociation curve to left
   A. Rise in temperature and rise in pH
   B. Decrease in temperature and rise in pH
   C. Increase in 2,3-DPG and rise in pH
   D. Decrease in 2,3-DPG and decrease in pH
7. Smooth muscle lacks
   A. Actin
   B. Myosin
   C. Troponin
   D. Tropomyosin
8. The term “brain of the gut” refers to
   A. Autonomic ganglia
   B. Enteric nervous system
   C. Migratory motor complex
   D. Cells of Cajal

9. Mareys heart law states
   A. When blood pressure increases, heart rate increases
   B. When blood pressure increases, heart rate decreases
   C. When blood pressure decreases, heart rate decreases
   D. None of the above
10. The retention of free water by ADH in the collecting duct is mediated mainly by
   A. AQP-1
   B. AQP-2
   C. AQP-3
   D. AQP-4
11. Conduction speed is slowest in the
   A. SA node
   B. Bundle of His
   C. Atrial pathway
   D. Purkinje system
12. The most part of the digestive tract receives parasympathetic innervations through
   A. Vagus nerve
   B. Trigeminal nerve
   C. Glossopharyngeal nerve
   D. Facial nerve
13. Calcium sensitive protein is sarcomere is
   A. Actin
   B. Troponin
   C. Myosin
   D. Tropomyosin
14. Which of the following is not always a component of a reflex arc?
   A. Receptor
   B. Sensory neuron
   C. CNS interneuron
   D. Motor neuron
15. Which of the following describes the electrical state of neuron at rest?
   A. The inside neuron is more negatively charged than the outside
   B. The outside of the neuron is more negatively charged than the inside
   C. Potassium ions leak into the inside of neuron
   D. The inside and outside of the neuron has same electrical charge
16. During inspiration which of the following events take place
   A. Diaphragm relaxes and curves in
   B. Rib-cage is lowered by muscle contraction
   C. Diaphragm contracts and straightens
   D. Abdominal muscles are contracted

17. The ruminant saliva does not contain
   A. Bicarbonate
   B. Salivary Amylase
   C. Phosphate
   D. Urea

18. Medulla of adrenal gland primarily presents
    A. Presynaptic neurons of sympathetic nervous system
    B. Post synaptic neurons of Parasympathetic nervous system
    C. Post synaptic neurons of sympathetic nervous system
    D. All of the above

19. Posterior pituitary hormones are
    A. Nano peptide
    B. Amines
    C. Glycoproteins
    D. Steroids

20. Hyperthyroidism may lead to
    A. Cretin
    B. Addison's disease
    C. Exophthalmia
    D. Moon face

21. The "last ditch stand" in defense of falling blood pressure is
    A. Arterial baroreflex mechanism
    B. Arterial chemoreflex mechanism
    C. CNS ischemic response
    D. Bainbridge reflex

22. Conduction speed is slowest in the
    A. SA node
    B. Bundle of His
    C. Atrial pathway
    D. Purkinje system

23. Cytotoxic T- cells are commonly called as
    A. CD8+
    B. CD4+
    C. Both
    D. None

24. Removal of liver is fatal because
    A. Blood urea rises
    B. Jaundice develops
    C. Clotting time is prolonged
    D. Hypoglycemia develops

25. Insulin dependent glucose uptake into skeletal muscle is mainly mediated by
    A. GLUT-1
    B. GLUT-2
    C. GLUT-3
    D. GLUT-4

26. Sperm cells first acquire the ability to remove forward (progressive motility) in the
    A. Seminiferous tubules
    B. Epididymis
    C. Rete testis
    D. Female genital tract

27. Slow waves in the GIT are initiated by
    A. Cells of Cajal
    B. I cells
    C. K cells
    D. S cells

28. A class of antibodies that is produced first in all immune responses is
    A. IgA
    B. IgE
    C. IgG
    D. IgM

29. An autoimmune disease called multiple sclerosis affects
    A. Skin
    B. Myelin
    C. Muscle
    D. Joints

30. Which of the following anti-vitamin substance is present in sweet clover?
    A. Anti-vitamin A
    B. Anti-vitamin D
    C. Anti-vitamin E
    D. Antivitamin K

31. Vitamin required in propionic acid metabolism is
    A. Vit-C
    B. Vit B12
    C. Vit B2
    D. Vit B4

32. The square lips of Rhinoceros indicate that it is primarily a
    A. Browser
    B. Grazer
    C. Mixed feeder
    D. None of the above

33. Mineral deficient in milk is
    A. Zinc
    B. Copper
    C. Iron
    D. Manganese

34. Which of the following fodder crop(s) is most suitable for temperate zone?
    A. Oats
    B. Berseem
    C. Sorghum
    D. All of the above

35. Maintenance type of roughage has DCP of
    A. 3-5%
    B. 6-10%
    C. 11-15%
    D. 16-20%

36. Which kind of disease is limber neck?
    A. Metabolic
    B. Deficiency
    C. Toxicity
    D. Infectious

37. Anti-nutritional factor(s) which could be used as feed additives is/ are:
    A. Lectin
    B. Tannin
    C. Saponin
    D. Both b & c

38. Fiber content in root crops is usually in the range of:
    A. 0-4%
    B. 5-12%
    C. 12-18%
    D. 18-25%

39. The first limiting amino-acid in rat diets is
    A. Histidine
    B. Lysine
    C. Tryptophan
    D. Methionine

40. Which of the following oilcakes contain anti-nutritional factor “gossypol”
    A. Cotton seed cake
    B. Mustard cake
    C. Groundnut cake
    D. Mohua cake

41. Metabolizable Energy (ME) is most commonly used to evaluate feedstuffs for
    A. Laboratory animals
    B. Ruminants
    C. Poultry
    D. All of the above

42. Which of the following is most suitable for silage making
    A. Lucerne
    B. Berseem
    C. Maize
    D. Oats

43. Most promising initial symptom of Vitamin A deficiency in cows is
    A. Night blindness
    B. Copius salivation
    C. Xeropthalmia
    D. Copius lacrymation

44. The best method for estimation of Gross energy of feed is
    A. Bomb calorimeter
    B. Armsby's Respiration chamber
    C. Photometry
    D. Chromatography

45. pH in good quality silages should be in the range of
    A. 4.5–4.8
    B. 4.2-4.5
    C. 3.5-4.2
    D. 4.8-5.4

46. Which of the following cereal grains has the highest energy content?
    A. Wheat
    B. Maize
    C. Barley
    D. Oats
47. Oxalate content is more in
    A. Paddy straw
    B. Jowar karbi
    C. Sudan grass
    D. Bajra
48. Which of the following nutritional errors is common in high producing cows?
    A. Milk fever
    B. Ketosis
    C. Acidosis
    D. All of the above
49. Which one of the following amino acid is essentially absent in plantsHistidine
    A. Lysine
    B. Methionine
    C. Taurine
    D. Threonine

50. Jamaica Hope is cross between
    A. Gir and Kankrej
    B. Jersey and Sahiwal
    C. Jersey and Holstein Friesian
    D. Gir and Sahiwal

51. Best method of milking high yielders is
    A. Stripping
    B. Knuckling
    C. Full hand milking
    D. All are best

52. Milk fat and SNF content of standardized milk is
    A. 3 % fat and 8.5 % SNF
    B. 4.5 % fat and 9 % SNF
    C. 3.5 % fat and 8.5 % SNF
    D. 4.5 % fat and 8.5 % SNF

53. Breed with the highest fat content
    A. Jersey
    B. Bhadawari
    C. Murrah
    D. Jafarabadi

54. Best broiler breed of poultry is
    A. White leghorn
    B. Minorca
    C. Plymoth rock
    D. Cornish

55. Galvayne's groove in horses appears at the age of
    A. 1 year
    B. 5 years
    C. 10 years
    D. 15 years

56. Method of drying off in high yielders is
    A. Intermittent milking
    B. Incomplete milking
    C. Reducing extra concentrate
    D. All the above

57. Percentage of more livestock in addition to standard that can be accommodated in each loose house without unduly affecting their performance is
    A. 0 %
    B. 10-15 %
    C. 50-55%
    D. 100%

58. Arrangement of buildings on a livestock farm should preferably in the shape of letters
    A. E, U, L, C or F
    B. A, E, I, O or U
    C. A, B, C, D or E
    D. U, V, W, X or Y

59. One hectare of land is sufficient to produce fodder for how many adult cows
    A. 1
    B. 10
    C. 25
    D. 100

60. Shearing of locks of wool and dirt from dock region is known as
    A. Tagging
    B. Eyeing
    C. Crutching
    D. Ringing

61. Joria is produced by
    A. Kathiawari
    B. Bhakarwal
    C. Angora
    D. None

62. Yolk, suint and foreign matter together is called as
    A. Wool yolk
    B. Wool fat
    C. Foreign material
    D. Shrinkage

63. In India highest wool producing state is
    A. West Bengal
    B. Andhra Pradesh
    C. Madhya Pradesh
    D. Rajasthan

64. Which is known as Jersey of goat breeds
    A. Nubian
    B. Saanen
    C. Marwari
    D. Chigu

65. The minimum interval between two successive milkings is
    A. 6 hours
    B. 12 hours
    C. 18 hours
    D. 20 hours

66. Trot in horses is a
    A. One beat gait
    B. Two beat gait
    C. Three beat gait
    D. Four beat gait

67. Exotic mutton breed of sheep
    A. Merina
    B. Suffolk
    C. Polworth
    D. Rambouillet

68. Instrument to measure the wind velocity
    A. Pedometer
    B. Anemometer
    C. Barometer
    D. Speedometer

69. Corner incisor teeth of pigs
    A. Canine teeth
    B. Niddle teeth
    C. Molar teeth
    D. Wolf teeth

70. The method not used for water purification
    A. Aeration
    B. Aggulitination
    C. Chlorination
    D. Ozonization

71. On 18^{th} day candling of chicken eggs, live embryos appear as
    A. Translucent
    B. Transparent
    C. Spiderlike
    D. Opaque

72. The capacity of cow to maintain high yields for a longer period is known as
    A. Resistance
    B. Peak yield
    C. High yield
    D. Persistence

73. Haugh unit measures
    A. Shape index of eggs
    B. Quality of yolk
    C. Quality of albumin
    D. Strength of egg

74. The aeration is the method of purification of
    A. Water
    B. Air
    C. Oxygen
    D. Sand

75. A cross between two true breeding lines one with dark blue flowers and one with bright white flowers produces F1 offspring that are light blue. When the F1 progeny are selfed at 1:2:1 ratio of dark blue to light blue to white flowers is observed. What genetic phenomenon is consistent with these results?
    A. Epistasis
    B. Incomplete dominance
    C. Co-dominance
    D. Inbreeding depression

76. What would be the frequency of AABBCC individuals from a mating of two AaBbCc individuals
    A. 1/8
    B. 1/16
    C. 1/32
    D. 1/64

77. Arabidopsis is advantageous for plant genetic research because
    A. It is commercially important as a food crop
    B. It is an endangered species
    C. It is the closest to humans of any existing plant
    D. It is a small plant with a small genome size which can be raised inexpensively

78. A homeotic mutation is one which:
    A. Is present in only one form in an individual
    B. Substitutes one body part for another in development
    C. Results in development of a tumor
    D. Is wild type at one temperature and abnormal at another

79. Assuming that the level of glucose is low, a mutation in the repressor of the lac operon in E. coli, preventing binding of the repressor to the operator, should result in:
    A. Constitutive expression of the lac operon genes
    B. Lack of expression or reduced expression of the lac operon genes under all circumstances
    C. Expression of the genes only when lactose is present
    D. Expression of the genes only when lactose is absent

80. Assuming that the level of glucose is low, a mutation in the repressor associated with the lac operon of E. coli which prevents binding of the repressor to lactose should result in:
    A. Constitutive expression of the lac operon genes
    B. Lack of expression or reduced expression of the lac operon genes under all circumstances
    C. Expression of the genes only when lactose is present
    D. Expression of the genes only when lactose is absent

81. Genetic drift is applicable for
    A. Small population
    B. Large population
    C. Both
    D. None

82. Non Additive Gene Involves
    A. Dominance
    B. Epistatsis
    C. Interaction
    D. All the above

83. Which buffalo breed is used for upgradation in Jammu region
    A. Nili Ravi
    B. Mehsana
    C. Murrah
    D. Bhadawari
84. Selection utilizes which type of gene action
    A. Additive gene action
    B. Non Additive gene action
    C. Both
    D. None of the above
85. Comb type is an example of
    A. Quantitative
    B. Qualitative
    C. Pure
    D. Commercial gene action
86. The exotic breed used for cross breeding in sheep for fine wool is
    A. Bikaneri
    B. South down
    C. Corridale
    D. Rambouillet

87. Chromosome number in Camel is
    A. 72
    B. 74
    C. 76
    D. 64

88. If the coefficient of selection is 0.25, then fitness is
    A. 0.25
    B. 0.50
    C. 0.75
    D. 1.00

89. The proportion of Sex linked genes in a population is
    A. Higher in heterogametic sex
    B. Higher in homogametic sex
    C. Equal in both sexes
    D. None of the above

90. Epistatic ratio of 9:7 is observed in
    A. Recessive epistasis
    B. Duplicate Recessive epistasis
    C. Dominant epistasis
    D. None of the above

91. If a population has the following genotype frequencies, AA = 0.42, Aa= 0.46, and aa= 0.12. What are the allele frequencies
    A. A = 0.42 a= 0.12
    B. A = 0.60 a= 0.40
    C. A = .65 a =0.35
    D. A = 0.76 a = 0.24

92. The greatest source of genetic variation in animal populations is from
    A. Mutations
    B. Sexual reproduction
    C. Selection
    D. Geographic variation

93. During the first meiotic division (meiosis I)
    A. Homologous chromosomes separate
    B. Chromosome number is reduced in half
    C. Crossing over between nonsister chromatids occurs
    D. All of the above

94. An individual with the genotype of AABbCcDD can make how many different kinds of gametes
    A. 2
    B. 4
    C. 8
    D. 16

95. In a cross that follows a single trait, if a homozygous dominant is crossed with a heterozygote for a given trait, the offspring will be
    A. All of the dominant phenotype
    B. ¼ of the recessive phenotype
    C. All homozygous dominant
    D. All homozygous recessive

96. Recessive epistasis ratio
    A. 12:3:1
    B. 13:3
    C. 9:3:4
    D. 15:1

97. Estimates of the number of genes in a mammalian genome are
    A. Between 3,000 to 6,000.
    B. Between 30,000 to 60,000.
    C. Between 300,000 to 600,000
    D. None of the above

98. EBV is
    A. Used for culling and mating decisions & to measure genetic change
    B. Obtained from statistical linear models
    C. Two times the ETA
    D. All of the above

99. Suppose you have a herd of cows that were all cloned from a single individual. That is, the entire herd is genetically identical, i.e. 100% of genes are identical by descent in all animals.
    A. All animals would have exactly the same phenotype (e.g. same amount of milk yield).
    B. All animals would have exactly the same EBV.
    C. Animals would have different EBVs because the phenotypes are all different.
    D. All animals would look exactly the same

100. Most common Robertsonian translocation in cattle involves which chromosome number shift
    A. 1 to 26
    B. 1 to 27
    C. 1 to 28
    D. 1 to 29

101. When information to be collected from a geographically dispersed population, what should be the proper sampling technique
    A. Stratified sampling
    B. Systematic sampling
    C. Cluster sampling
    D. Snowball sampling technique

102. Which one of the below can have most effective learning experience
   A. Result demonstration
   B. Method demonstration
   C. Contrived experience
   D. Field trips

103. Farmers first model was first given by
   A. Robert Chamber
   B. EM Rogers
   C. P Leaganes
   D. Wilson and Gallop

104. Diffusion and adoption of a new technology are respectively decided by
   A. Society and society
   B. Individual and individual
   C. Individual and society
   D. Society and individual

105. When an innovation is changed or modified in the process of its adoption and implementation is called
   A. Re-invention
   B. Re-engineering
   C. Re-modeling
   D. Re-making

106. "Journal of Rural Development" is published by
   A. Ministry of rural development
   B. National Bank for Agriculture and Rural Development
   C. National Institute of Rural Development
   D. Council for Advancement of Peoples Action and Rural Technology

107. Swachha Bharath Abhiyan is a example of
   A. Rally
   B. Campaign
   C. Exhibition
   D. Demonstration

108. Which evaluation type helps in assessing impact and outcome of the project
   A. Formative evaluation
   B. Summative evaluation
   C. Process evaluation
   D. Concurrent evaluation

109. vKVK stands for
   A. Voice message Krishi Vigyan Kendra
   B. Virtual Krishi Vigyan Kendra
   C. Vibrant Krishi Vigyan Kendra
   D. We Krishi Vigyan Kendra

110. Initiatives using mobiles to communicate information directly to farmers
- A. Mandi on Mobile
- B. Reuters Market Light
- C. Nokia Life Tools.
- D. All of the above

111. e- CHOUPAL concept in extension delivery was promoted by
- A. NABARD
- B. ITC
- C. CAPART
- D. MSSRF

112. Developmental program launched by Government of India for Conservation of indigenous cattle is
- A. Rashtriya Gokul Mission
- B. Gausamvardhana
- C. Special Livestock Breeding Programme
- D. None of the above

113. A *'village guide'* was posted under which programme
- A. Firka Development Scheme
- B. Niiokheri Experiment
- C. Sevagram Experiment
- D. Gurgaon Experiment

114. For the first time farm women have been recognized as *Kisaan* with the launch of *Mahila Kisaan Sasakthikaran Pariyojna* under the banner of
- A. DAY-NRLM
- B. MDNGREA
- C. Start up village entrepreneurship programme (SVEP)
- D. DDU Grameen Koushalya Yojana (DDU-GKY)

115. The technique used for projects involving activities of non-repetitive nature
- A. CPM
- B. PERT
- C. WBS
- D. PRA

116. The name of online portal launched by union government to solve the problems of agriculture sector is
- A. e-NAM
- B. e-Krishi samvad
- C. e-agriculture solution
- D. e-krishi solution

117. The first extension education institute in India was established in
A. Anand
B. Nilokhari
C. Hyderabad
D. Jorhat

118. Concept of feedback in communication was introduced by
A. D Berlo
B. P Leagan
C. Hovland
D. Westly and Mclean

119. Which of the following is the differentiating element between community and society
A. A group of person
B. Common interest
C. Definite locality
D. Feelings of belongingness

120. In which situation the interviewer and members jointly control the pace and direction of the interview.
A. Field interview
B. Telephonic interview
C. Both A and B
D. None of the given option

121. Skeletal and cardiac muscles are
A. Striated and voluntary
B. Striated and non voluntary
C. Smooth and non voluntary
D. None of the above

122. Thick and thin filaments are made up of……..respectively
A. Myosin and actin
B. Myosin and nectin
C. Actin and myosin
D. Titin and nebulin

123. In H-zone, longitudinal tubules converse forming a perforated structure, called as
A. Terminal cisternae
B. Fenestrated collar/window collar
C. T-tubule
D. Longitudinal tubule

124. Connective tissue surrounding muscle, muscle bundle and muscle fibre is known as
A. Ground tissue
B. Extracellular fibres
C. Connective tissue proper
D. Mucoprotein

125. In brown fat……amount of cytochrome and……amount of mitochondria as compared to white fat
   A. High and low
   B. low and high
   C. low and low
   D. High and high

126. The ATP splitting activity of myosin ATPase is enhanced by….ions
   A. Ca
   B. Mg
   C. Na
   D. Cl

127. ……..is the purity/ saturation which describes the intensity of the fundamental color with respect to amount of white light that is mixed in with it
   A. Hue
   B. Value
   C. Chroma
   D. None of the above

128. Chemical state of iron in oxymyoglobin and metmyoglobin are
   A. +2, +3
   B. +2, +2
   C. +3, +2
   D. +3, +3

129. …….is taken as part of daily food and functions beyond normal limit
   A. Functional food
   B. Neutral-ceutical
   C. Designer food
   D. None of the above

130. The storage life of chicken under refrigeration is …….days
   A. 3-7
   B. 14-21
   C. 12-15
   D. 1-2

131. For preparation of rennin following micro organisms are used
   A. *Mucor pucillus*
   B. *Methina coagulans*
   C. Both
   D. None

132. Application of band at rumino-oesophageal junction to prevent contamination is called
   A. Rimming
   B. Ripping
   C. Banging
   D. Rodding

133. Mid ventral opening of beef carcass is known as
   A. Ripping
   B. Banging
   C. Rimming
   D. Pluck removal

134. The process of subdivision or reduction of raw meat into meat pieces or particles in
   A. Preblending
   B. Tumbling
   C. Emulsification
   D. Communition

135. The critical control points which can be eliminated completely are
   A. CCP type 1
   B. CCP type 2
   C. Any of the above
   D. None of the above

136. The inner thick layer of albumin is also called as
   A. Vitelline membrane
   B. Chalaziferous layer
   C. Latebra
   D. Germinal disc

137. Red heat condition in hide curing is the manifestation of
   A. Pigmented halophiles
   B. Pigmented osmophiles
   C. Pshycophiles
   D. Thermophiles

138. The equipment used to measure the total area of leather, whose fingers sense the leather when it passes through the machine
   A. Texture analyzer
   B. Sonicator
   C. Pressing machine
   D. Planimeter

139. Can in which one end is bulged but can be forced back into normal position, whereupon the opposite end bulges.
   A. Flipper
   B. Springer
   C. Nitrate swell
   D. Soft swell

140. In homogenized milk, the sizes of fat globules are less than
   A. 2 µ
   B. 10µ
   C. 20µ
   D. 50µ

141. An emulsifying agent functions to reduce
A. Surface tension
B. Friction
C. Homogenization
D. Interfacial tension

142. Abattoir term is derived from French word abatter which means
A. Fall down
B. Death of animal
C. Strike down
D. Killing of animal

143. The schedule of MFPO deals with the requirements to be complied with as regards to packaging, marking and labeling the containers
A. First
B. Second
C. Third
D. Fourth

144. Calves slaughtered within few days of birth having low muscle: bone ratio and very edematous carcass are called as
A. Bobby calves
B. Fat stock
C. Lean calves
D. Still birth

145. Transient or shipping fever mainly due to faulty transport is caused by
A. *Pasturella haemolytica*
B. *Salmonella pullorum*
C. *Pasturella mutocida*
D. *E. coli*

146. The method of stunning used for edible brain is
A. Electrical stunning
B. Non penetrative percussion
C. Pneumatic stunning
D. Captive bolt stunning

147. In neck stab or evernazione method of slaughter, a sharp edged knife is plunged into occipito-atlantal space. The knife is called as
A. Pith
B. Puntilla
C. Chocker
D. None of the above

148. In canning industry, the indicator organisms used for commercial sterility is
A. *Clostridium botulinum*
B. *Staphylococcus aureus*
C. *E. coli*
D. *Salmonella typhae*

149. Papillomatosis is a viral disease in which cauliflower like outgrowths of the skin occur on neck, head and shoulder
   A. Reject the carcass
   B. Reject the neck, head and shoulder
   C. Reject skin, pass the carcass
   D. None of the above

150. Five rules of Jewish slaughter required for killing animal for food are killing the animal without
   A. Pause, pressure, slanting, slacking and tearing
   B. Pause, pressure, stabbing, stabbing and tearing
   C. Pause, pressure, slanting, stabbing and tearing
   D. Pause, pressure, slanting, stabbing and trimming

KEY

Q. No	Answer	Q. No	Answer	Q. No	Answer	Q. No	Answer
1	C	39	A	77	D	115	B
2	B	40	A	78	B	116	B
3	B	41	C	79	A	117	B
4	A	42	C	80	B	118	A
5	B	43	D	81	A	119	C
6	B	44	A	82	D	120	A
7	C	45	C	83	C	121	B
8	B	46	B	84	A	122	A
9	B	47	A	85	B	123	B
10	B	48	D	86	D	124	C
11	A	49	A	87	B	125	D
12	A	50	B	88	C	126	A
13	B	51	C	89	C	127	C
14	C	52	D	90	B	128	A
15	A	53	B	91	C	129	B
16	C	54	D	92	B	130	A
17	B	55	C	93	D	131	A
18	C	56	D	94	B	132	D
19	A	57	B	95	A	133	A
20	C	58	A	96	C	134	D
21	C	59	B	97	B	135	A
22	A	60	A	98	D	136	B
23	A	61	A	99	B	137	A
24	C	62	D	100	D	138	D
25	D	63	B	101	A	139	B
26	B	64	A	102	C	140	A
27	C	65	A	103	A	141	D
28	D	66	B	104	D	142	C
29	B	67	B	105	A	143	D
30	D	68	B	106	C	144	A
31	B	69	D	107	B	145	A
32	B	70	B	108	B	146	C
33	C	71	D	109	B	147	B
34	D	72	D	110	D	148	A
35	A	73	C	111	B	149	C
36	D	74	A	112	A	150	C
37	D	75	B	113	D		
38	B	76	D	114	A		

MIXED QUESTIONS

1. Which of the following tests is considered as the standard serological test for diagnosis of Leptospirosis?

a) ELISA b) Dark Field Microscopy
c) Microscopic Agglutination Test d) Haemagglutination Test

2. Blue eye in ICH develops as a result of:

a) Type I hypersensitivity b) Type II hypersensitivity
c) Type III hypersensitivity d) Type IV hypersensitivity

3. In recovered cattle, FMD virus can be isolated from:

a) Lungs b) Serum
c) Spleen d) Pharynx

4. Infectious Bovine Rhinotracheitis leads to:

a) Ocular infection b) Genital Infection
c) Nervous system involvement d) All of the above

5. Toxicoinfectious botulism occurs due to which type of *Clostridium botulinum*:

a) Type A b) Type B
c) Type C d) Type D

6. Sample required for Ascoli's test is:

a) Whole Blood b) Serum
c) Faeces d) Tissue

7. Which of the following is not a complication of strangles in horses?

a) Purpura Haemorrhagica b) Bastard Strangles
c) Guttral Pouch Empyema d) Splenic Rupture

8. The clinical feature of pleurisy is

a) Pleuritic ridge b) Abdominal respiration
c) Shallow respiration d) All of the above

9. Mycoplasma in goats is not manifested as:

a) Keratocunjuctivitis b) Enteritis
c) Mastitis d) Pneumonia

10. Calf hood vaccination is done for prevention of

a) Trichomonaiasis b) Brucellosis
c) Theleriasis d) FMD

11. Ketosis is characterized by

a) Hypoglycemia b) Ketonemia
c) Hypocalcemia d) Both A and B

12. Recent outbreak of swine influenza in India was due to

a) H5N1 b) H5N5
c) H1N1 d) H1N5

13. The Auscultation of heart in effusive traumatic pericarditis reveals

a) Systolic murmur b) Diasystolic murmur
c) Splashing sounds d) All of the above

14. In and ECG, QRS complex represents

a) Atrial depolarization b) Atrial repolarization
c) Ventricular depolarization ` d) Ventricular repolarization

15. Which of the following is not used for treatment of heart diseases?

a) Digioxin b) KCl

c) Frusemide d) none of the above

16. Pandy's Test is done for qualitative estimation of _____in CSF

a) Glucose b) Cell count

c) Protein d) Sodium

17. Normal intra ocular pressure in dog is

a) 15-25 mmHg b) 14-26 mmHg

c) 14-22 mmHg d) 20-30 mmHg

18. Bilateral abdominal distension in cattle occurs in

a) Peritonitis b) Intestinal obstruction

c) Both A and B d) None of the above

19. Right sided abdominal ping occurs in

a) Pneumorectum b) Caecal dilatation

c) Pneumoperitonium d) All of the above

20. Major blood groups in dogs are

a) DEA 1.1 b) DEA 7

c) DEA 1.2 d) Both A and B

21. Freemartinism in new born heifer calf will not develop if male embryo dies

a) Before day 40 b) Before day 60

c) Before day 30 d) Before day 50

22. The PSP test for assessing patency of uterine tubes in cow should be carried out during _____phase of estrous cycle to eliminate false negatives

a) Estrous b) Metestrous

c) Anestrous d) Diestrous

23. Fibrous sheath is a characteristic feature of

a) Head b) Neck

c) Mid-piece d) Principal piece

24. Prostaglandins are mainly contributed to the semen by

a) Bulbourethral glands b) Ampullae

c) Seminal vesicle d) Prostate gland

25. A drug that can be used for delaying parturition is a

a) β-receptor agonist b) β- receptor antagonist

c) α & β-receptor antagonist d) an ecbolic

26. Feed forward loop mechanism is associated with

a) GnRH b) Estrogen

c) Relaxin d) Oxytocin

27. Which obstetrical procedure should be adopted if the head of a maldispositioned dead fetus is hanging at vulva

a) Forced traction b) Fetotomy

c) Caesarean d) Version

28. The fertile life span of spermatozoa in female reproductive tract of mare is

a) 12-24 hours b) 6-8 days

c) 24-48 hours d) 6-8 hours

29. Which species is least susceptible to uterine torsion

a) Buffalo b) Cow
c) Mare d) Doe

30. Blastocyst elongation does *Not* occur in

a) Sow b) Mare
c) Cow d) Bitch

31. Low land abortion or Marsh land abortion is due to

a) Fescue poisoning b) Leptospirosis
c) Nitrate poisoning d) None

32. Cervix is poorly defined in

a) Mare b)Cow
c) Goat d) Bitch

33. In rabbits, the substance that plays role in embryonic nutrition is

a) Uteroglobulin b) Histotroph
c) Uteroalbumin d) Uterotroph

34. Shape of CL in mare is

a) Onion like b) Peach like
c) Cauliflower like d) Potato like

35. Antimicrobial ingredient of semen is

a) Seminal plasmin b) Nitrous oxide
c) Fructose d) All

36. Semen with least abnormal spermatozoa is

a) Bull semen b) Stallion semen
c) Ram semen d) Boar semen

37. Condition in which straight rear legs and contracted gastronemius muscle are formed is known as

a) Spastic paresis b) Syndacrylism
c) Toeing in d) None

38. A ruminant with diffused placenta is

a) Deer b) Camel
c) Goat d) None

39. Swiss-cheese appearance is observed in endometrial glands of

a) Anestrus b) Nymphomanic cow
c) Metritis d) Silent heat syndrome

40. The nurse cells of testes are

a) Primary germ cells b) Oxyntic cells
c) Sertoli cells d) Interstitial cell

41. Suturing of uterus in caesarean section should start from

a) Ovarian end b) Cervical end
c) Both d) None

42. Double bubble sign in radiograph is seen in which condition

a) Gastric dilatation b) Gastric dilatation and volvulus
c) Both d) None

43. Propofol anaesthesia recovery in dogs is

a) Slow and smooth b) Rapid and rough
c) Both d) None

44. Method of suturing in tendon repair

a) Bunnel pattern b) Locking loop pattern
c) Both d) None

45. A clinical diagnosis of navicular disease can be made only if lameness is significantly improved by Intra-articular anaesthesia of the

a) DIP joint b) PIP joint.
c) Both d) None

46. Excess lacrimation may be caused by irritation of

a) 6^{th} cranial nerve b) 7^{th} cranial nerve
c) Both d) None

47. The diameter of intramedullary pin should be _____% of medullary cavity diameter

a) 70 per cent b) 100 per cent
c) Both d) None

48. Perineal hernia is mostly seen in

a) Female dogs b) Male dogs
c) Both d) None

49. Auricular palpebral block produces_____effect on orbicularis occuli muscle

a) Akinesia b) Anesthesia
c) Both d) none

50. Drawal sign is seen in which condition

a) Cranial cruciate rupture b) Caudal cruciate rupture
c) Both. d) None

51. You obtain an ultrasound image of a renal calculus. The area deep to the calculus is completely black. What term is used to describe this black artifact?

a) Acoustic enhancement b) Acoustic shadowing
c) Refraction artefact d) Slice thickness artifact

52. Which suture size is smaller in diameter than 3-0

a) 2-0 b) #3
c) 4-0 d) #4

53. Castration of healthy 6-month-old cat is an example of

a) Cosmetic surgery b) Elective surgery
c) Emergency surgery d) Exploratory surgery

54. What is the correct term for creation of a permanent artificial opening into the oesophagus

a) Esophagectomy b) Esophagopexy
c) Esophagostomy d) Esophagposcopy

55. To be classified as non absorbable, suture material must maintain its tensile strength in tissue for longer than.

a) 30 days b) 90 days
c) 60 days d) 120 days

56. Which of the following is a two beat lateral gait?

a) Pace b) Trot
c) Canter d) Gallop

57. Inflammation of the periosteum on the dorsal distal epiphyseal surface of the third metacarpal bone and the associated capsule of the fetlock joint is known as

a) Osselets b) Ringbone
c) Windpuff d) Gravel

58. Necrosis of the collateral cartilages is known as

a) Side bone b) Ring bone
c) Gravel d) Quittor

59. Ossification of the collateral cartilages is known as

a) Osselets b) Quittor
c) Sidebone d) Ringbone

60. Crural paralysis is also known as

a) Fermoral nerve paralysis b) Tibial nerve paralysis
c) Radial nerve paralysis d) Peroneal nerve paralysis

61. The binding of drugs to receptors involves:

a) Ionic bond b) Hydrogen bond
c) Vander Waals force d) All of the above

62. Which of the following is the example of competitive antagonism:

a) Neutralization of heparin by protamine b) Chelating of heavy metal by dimercaprol
c) Blockade of muscarinic receptors by atropine d) Bockade of AChE by malathion

63. Kinetic parameters required to calculate amount of a single dose of a drug are

a) Distribution constant and vol. of distribution b) Drug plasma conc. and vol. of distribution
c) Elimination constant and vol. of distribution d) Half- life and vol. of distribution

64. Which of the following is the correct order depicting plasma solubility?

a) Nitrousoxide>Ether>Isoflurane>Halothane b) Halothane>Isoflurane>Ether>Nitrousoxide
c) Ether>Nitrousoxide>Isoflurane> Halothane d)Isoflurane>Nitrousoxide> Halothane>Ether

65. Identify the anaesthetic that increases CNS irritability:

a) Halothane b) Enflurane
c) Fentanyl d) Diazepam

66. Local anesthetics produce their action by blocking the conductance of _____channels.

a) Sodium b) Potassium
c) Chloride d) All of the above

67. G-Proteins are bound to_____in the cells.

a) Endoplasmic reticulum in the cytoplasm b) Nucleolar membrane
c) Cytoplasmic surface of cell membrane d) Extracellular surface of the cell

68. Which of the following is not required for oxidative reaction by MFOs:

a) Cyt P450 b) Oxygen
c) Reduced NADP d) H2O

69. A low extent sulphate conjugation of aryl amines occurs in

a) Dog b) Pig
c) Horse d) Cat

70. If combined effect of two drugs is more than the sum of their individual effect, then these two drugs are said to be

a) Additive b) Potentiative
c) Antagonistic d) None of the above

71. One of the following enzymes is not involved in phase II metabolism of toxicants.

a) Cyt P_{450} dependent monooxygenase b) Glucuronyl transferase
c) Glutathione–S-transferase d) Sulfotransferase

72. 'Spectacled eye' appearance is seen in poisoning of:

a) Copper b) Molybdenum
c) Selenium d) Thallium

73. Which of the following is classified both as antihypertensive and antiarrhythmic drug?

a) Metoprolol b) Phenytoin
c) Digoxin d) None of these

74. Antihypertensive action of which of the following drugs involves activation of ATP-sensitive potassium channels of arteriolar smooth muscle to produce arteriolar dilation?

a) Nitroprusside b) Diazoxide
c) Amlodipine d) All of these

75. NSAIDs are not routinely used as tocolytics because they:

a) Produce severe gastric ulceration b) Do not stop labor.
c) Prematurely close ductus arteriosus. d) None of these.

76. Drug most appropriate for the treatment of motion sickness is

a) Hyocine butylbromide b) Ondansetron
c) Metoclopramide d) Hyocine

77. The species ideal for studying organophosphate induced delayed polyneuropathy is

a) Hen b) Wistar rat
c) Dog d) Sheep

78. Bone marrow dyscrasia is caused by

a) Florfenicol b) Pencillin G
c) Pencillin V d) None of these

79. The rate theory of drug action was introduced by

a) W.D.M Paton b) A J Clarke
c) C Bernard d) S L Miller

80. The fluoroquinolone that is highly effective against Pseudomonas aeruginosa is

a) Ciprofloxacin b) Enoxacin
c) Ofloxacin d) Levofloxacin

81. The evolution of new subtypes of Influenza virus (swine/bird flu) resulting in epidemics and pandemics is typically due to:

a) Antigenic drift b) Antigenic shift
c) Deletion d) Point mutation

82. The recent epidemics of swine flu in India are caused by _____strain of Influenza virus:

a) H5N1 b) H3N8
c) H1N5 d) H1N1

83. The following disease(s) is transmitted by mosquito bite

a) Rift valley fever b) Yellow fever
c) Dengue Fever d. All of above

84. Chlonorchiasis is a

a) Cyclozoonoses b) Metazoonoses type I
c) Metazoonoses type II d) Metazoonoses type III

85. Plague is a

a) Metazoonoses Type-I b) Metazoonoses Type II
c) Metazoonoses Type III d) Metazoonoses Type-IV

86. Which of the following is soil borne disease?

a) Tetanus b) Ascariasis
c) Ancylostomiasis d) All of these

87. Every year the world zoonoses day is celebrated on

a) 6th June b) 6th July
c) 6th August d) 6th September

88. Diseases transmitted through organs transplanted from animals, are called:

a) Allozoonoses c) Autozoonoses
b) Xenozoonoses d) Heamozoonoses

89. Diseases primarily transmitted from the lower vertebrate animals to human beings are called

a) Anthropozoonoses b) Zooanthropozoonoses
c) Amphizoonoses d) Metazoonoses

90. Which one is the obligatory cyclozoonosis

a) *Taenia solium* b) *Echinococcus granulosus*
c) *Toxoplasma gondii* d) VLM

91. The sand bed in slow sand filter is cleaned by

a) Scrapping b) Backwashing
c) High Pressure d) All of the above

92. The serotype/strain of rabies virus isolated from bats in South Africa and Zimbabwe is:

a) Duvenhage b) Koktonkan
c) Obodhiang d) Mokola

93. In western Africa a special form of rabies (*oulou fato*) in dogs, is characterized by:

a) Diarrhea b) Dumb form
c) Furious form d) Both a and b

94. 17D vaccine is used against which disease:

a) Rift Valley Fever b) Yellow Fever
c) KFD d) Dengue Fever

95. Tired blood is characterized by

a) Microcytic hypochromic anemia b) Macrocytic Hypochromic anemia
c) Normocytic normochromic anemia d) None of these

96. Which of the following is not a feature of malignancy

a) Anaplasia b) Pleomorphism
c) Decreased Nuclear/ cytoplasmic ratio d) None of these

97. Which of the following cannot be used to demonstrate chlamydia in tissue sections

a) Casteneda b) Gimenez
c) Giemsa d) None of these

98. Bollinger bodies are

a) Intra nuclear b) Intra cytoplasmic
c) Intra nucleolar d) None of above

99. Infilitration of liver with pleomorphic lymphocytes is characteristic of

a) Lymphoid Leukosis b) IBH

c) Marek's disease d) ILT

100. Transport of Mycobacterium paratuberculosis across the mucosa is facilitated by

a) Paneth cells b) Cup cells

c) Tuft cells d) M cells

101. Encephalitic form of Leptospirosis is commonly seen in

a) Ruminants b) Dog

c) Horse d) All of these

102. Cofal test is done for confirmation of which disease.

a) Egg drop syndrome b) Avian Leukosis

c) Marek's Disease d) ILT

103. Curled toe paralysis is due to deficiency of

a) Vitamin B2 b) Vitamin B12

c) Vitamin B1 d) Vitamin B6

104. Brown induration of lungs is characteristic of

a) Left sided heart failure b) Right sided heart failure

c) Myocardial infarction d) CorPulmonale.

105. Which of the following supra vital stain is used to demonstrate reticulocytes in peripheral circulation.

a) New methylene blue b) Briliantcresyl Blue

c) Both d) Modified Wright's stain

106. Which of the following is not a malignant neoplasm

a) Fibrosarcoma b) TVT

c) Melanoma d) None of these

107. Thrombo embolic meningo encephalitis of cattle is caused by

a) Haemophilussomnus b) Haemophilusparasuis

c) Haemophilushemolyticus d) All of above

108. Bacterial enzymes that cuts DNA through sugar-phosphate backbone at or near specific recognition nucleotide sequences are known as

a) DNA ligases b) Alkaline phosphatases

c) Restriction Endonucleases d) DNA polymerases

109. The toxicity of Gram-negative bacteria is often due to

a) Protein secreted by the vegetative cell b) Endospores

c) Lipopolysacrride endotoxin d) None of the above

110. Peptidoglycan layer in bacterial cell wall is made of

a) Cellulose b) N-Acetylmuramic acid

c) N-acetylglucosamine d) Both B and C

111. Which agar is commonly used for Antibiotic sensitivity test?

a) Nutirent agar b) Muller-Hinton agar

c) Blood agar d) None of these

112. Which of the following structures are NOT found in naked virions?

a) Capsomers b) Peplomers

c) Nucleocapsid d) Protomers

113. The cancer producing retroviruses have an additional gene called

a) gag b) pol

c) v-onc d) env

114. The genomic replication of most DNA viruses takes place in_____of cell.

a) Nucleus b) Cytoplasm
c) Mitochondria d) Golgi apparatus

115. Human colostrum and milk is abundant in_____immunoglobulin, whereas cow milk and colostrum is rich in_____immunoglobulin (respectively as below)

a) IgA, IgG b) IgM, IgG
c) IgG, IgA d) IgG, IgG

116. In organ transplantation, a graft between members of same species is termed an:

a) Autograft b) Isograft
c) Xenograft d) Allograft

117. Which of the following cytokine has anti-inflammatory activity?

a) IL-1 b) IL-6
c) IL-2 d) IL-10

118. Which of the following virus belong to genus Morbillivirus

a) Rinderpest b) Canine distemper
c) Peste-des-petitis-ruminants (PPR) d) All

119. The serotypes of FMD virus currently prevent in India are:

a) O, A, C & Asia 1 b) O, A & Asia 1
c) O, A and SAT 1 d) Asia 1 only

120. *Clostridium perfringens type D* produces:

a) α-toxin only b) α-, β-, and epsilon toxins
c) α- and β-toxins d) α-and epsilon toxins

121. CAMP test is used for identification of

a) *Streptococcus agalactiae* b) *Listeria monocytogenes*
c) Both of the above d) *Staphylococcus aureus*

122. Recently one of the following has been declared as an organ

a) Broad ligament b) Pleura
c) Mesentery c) Omentum

123. Endotheliochorial placenta is observed in

a) Carnivores b) Equines
c) Rabbit d) Ruminants

124. Orbital ligament is observed in the skull of

a) Equines b) Canines
c) Bovines d) Ovines

125. Number of sacral segments in dog is

a) Three b) Four
c) Five d) Six

126. Epithelial tissue is derived from

a) Ectoderm b) Mesoderm
c) Endoderm d) All of these

127. Quadrate bone is found in

a) Ox b) Horse
c) Dog d) None

128. Epididymis has the lining epithelium as

a) Simple cuboidal b) Pseudostratified columnar
c) Simple columnar d) Simple squamous

129. The cortex of ovary is in the centre and medulla outside in case of

a) Mare b) Cow
c) Bitch d) Ewe

130. Smallest part of small intestine is

a) Duodenum b) Jejunum
c) Ilium d) None of these

131.Tapetum lucidium is absent in

a) Horse b) Ox
c) Dog d) Pig

132. Dieterich's Method of Hyo-vertebrotomy is performed in case of

a) Choking b) Blockage of stenson's duct
c) Empyema of guttural pouch d) None of these

133. The rounded musculo-tendinous bands extending from the interventricular septum to the lateral wall of the heart are known as

a) Moderator bands b) Trabeculae carneae
c) Chordae tendinae d) Musculi papillares

134. In new born animals, size of abomasum is equal to

a) Rumen b) Reticulum
c) 2 (Rumen + reticulum) d) Rumen + reticulum/2

135. Caeca are two in number in

a) Fowl b) Sheep
c) Horse d) Human

136. Inquilism is a type of following commensalism

a) Synoecious type b) Transport type
c) Protective type d) None

137. The following snail is the intermediate host of *Schistosoma spindale*

a) *Lymnaea luteola* b) *Indoplanorbis exustus*
c) *Lymnaea auricularia* d) *Lymnaea trancatula*

138. *Trypanosoma brucei* produce a cystine protease that inhibits parasite opsonisation by degrading antibody bound trypanosome antigen called

a) Trypanopain b) Cruzipain
c) TcTox d)None of them

139. One adverse consequence of immunity to protozoa causing local irritation and inflammation of genital tract in case of Trichomoniasis is

a) Type I hypersensitivity b) Type II Cytotoxic reaction
c) Type IV hypersensitivity d) Type III hypersensitivity

140. The organisms invade the mucosa and submucosa of large intestine of man and produce flask shaped ulcers and in some cases the infection may spread to liver resulting in production of abscess.

a) *Entamoeba histolytica* b) *Entamoeba dispar*
b) Entamoeba coli d) *Entamoeba moshkovskii*

141. Sulphur yellow droppings are the characteristic clinical signs of disease caused by this organism in turkeys

a) *Eimeria melearidis* b) *Eimeria tenella*
c) *Histomonas meleagridis* d) *Trichomonas gallinae*

142. Which one is not intermediate host of *Dipylidium caninum*

a) *Ctenocephalides canis* b) *Ctenocephalides felis*
c) *Trichodectis canis* d) *Oribatid* mites

143. The infective stage of Ascarid worm is

a) L3 b) L2
c) L2 within egg d) L3 within egg

144. The drug of choice for lung worm is

a) Fenbendazole b) Diethylecarbamazine
c) Piperazine adimate d) Ivermectin

145. Pathogenesis of hepato-intestinal schistosomosis is mainly caused by

a) Eggs of Schistosomes b) Immature stages of schistosomes
c) Furcocercous cercariae of schistosomes d) Adult schistosomes

146. Ehrlichia canis occurs in

a) Erythrocytes b) Monocytes
c) Both of the above d) None of the above

147. Acid fast staining of faecal smears is done for detection of oocysts

a) *Cryptosporidium parvum* b) *Toxoplasma gondii*
c) *Neospora caninum* d) All of the above

148. The organism is transmitted directly from carrier older birds to the newly hatched pigeon squab via pigeon's milk from the crop.

a) *Trichomonas gallinae* b) *Hexamita columbae*
c) *Histomonas meleagridis* d) None of the above.

149. Which of the undernoted systems in parasites is distinctly developed

a) Excretory system b) Digestive system
c) Nervous system d) Reproductive system

150. The association in which parasite injuries the host and produces pathological lesion is known as

a) Parasitosis b) Parasitiasis
c) Parasitoids d) Both a & b