CRT- Astt. Veterinary Surgeons / Sr. Vet. Officer - 2025

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO

T.B.C. : VEAN-O-TSC

Test Booklet Series

A

1001381

TEST BOOKLET

VETERINARY SCIENCE

Time Allowed : Two Hours ***Maximum Marks : 300***

INSTRUCTIONS

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET ***DOES NOT*** HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS, ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
2. **Please note that it is the candidate's responsibility to encode and fill in the Roll Number and Test Booklet Series Code A, B, C or D carefully and without any omission or discrepancy at the appropriate places in the OMR Answer Sheet. Any omission/discrepancy will render the Answer Sheet liable for rejection.**
3. You have to enter your Roll Number on the Test Booklet in the Box provided alongside. ***DO NOT*** write ***anything else*** on the Test Booklet.
4. This Test Booklet contains **120** items (questions). Each item comprises four responses (answers). You will select the response which you want to mark on the Answer Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose ***ONLY ONE*** response for each item.
5. You have to mark all your responses ***ONLY*** on the separate Answer Sheet provided. See directions in the Answer Sheet.
6. All items carry equal marks.
7. Before you proceed to mark in the Answer Sheet the response to various items in the Test Booklet, you have to fill in some particulars in the Answer Sheet as per instructions sent to you with your Admission Certificate.
8. After you have completed filling in all your responses on the Answer Sheet and the examination has concluded, you should hand over to the Invigilator ***only the Answer Sheet***. You are permitted to take away with you the Test Booklet.
9. Sheets for rough work are appended in the Test Booklet at the end.
10. **Penalty for wrong answers :**

THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY A CANDIDATE.

(i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, **one-third** of the marks assigned to that question will be deducted as penalty.

(ii) If a candidate gives more than one answer, it will be treated as a **wrong answer** even if one of the given answers happens to be correct and there will be same penalty as above to that question.

(iii) If a question is left blank, i.e., no answer is given by the candidate, there will be **no penalty** for that question.

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1. The major urinary estrogen excreted in cow is :
   (a) Estradiol
   (b) Estrone
   (c) Estriol
   (d) Stilbesterol

2. What is the correct order based on the increasing time duration of coitus ?
   (a) Horse < Cat < Swine < Dog
   (b) Dog < Swine < Cat < Horse
   (c) Cat < Horse < Swine < Dog
   (d) Cat < Horse < Dog < Swine

3. Consider the following statements regarding ovulation in cows :
   I. During ovulation, there has been no increase of intrafollicular pressure.
   II. Release of LH leads to release of histamine causing ovarian hyperemia.
   III. Hyperemia may stimulate the release of collagenase enzyme.
   IV. Enzymes weaken the follicular wall and develop avascular area before ovulation.

   Which of the statements given above are correct ?
   (a) I and IV only
   (b) I, II and III only
   (c) II, III and IV only
   (d) I, II, III and IV

4. The bitch discharges much dark mucoid green lochia after whelping, majorly due to breakdown of :
   (a) Uteroverdin
   (b) Hemoglobin
   (c) Biliverdin
   (d) Relaxin

5. The major endocrine gland controlling the reproductive organs and functions is :
   (a) Ovary
   (b) Corpus luteum
   (c) Adenohypophysis
   (d) Placenta

6. Which hormone is essential for the maintenance of corpus luteum and its secretion of progesterone in rat and possibly to some extent, in sheep ?
   (a) Relaxin
   (b) Prolactin
   (c) LH
   (d) PMSG

7. Which of the following statements are correct regarding dropsy of fetal membrane ?
   I. Hydrops of the amnion is associated with genetic or congenitally defective fetus.
   II. Hydrops of the allantois is associated with diseased uterus.
   III. Hydrallantois is apparently caused by structural or functional changes in the allantois chorion.
   IV. Overgestation may occur in hydrallantois, but not in hydramnios.

   Select the answer using the code given below :
   (a) I, II and III only
   (b) I, II and IV
   (c) I, III and IV
   (d) II, III and IV

8. Picornaviruses or SMEDI viruses are responsible for causing occasional abortions in which one of the following species ?
   (a) Bovine
   (b) Equine
   (c) Ovine
   (d) Swine

9. Consider the following statements regarding brucella infection in cows :

I. Brucella causes abortion, preferably in the last trimester of pregnancy.

II. Vaccinate the calves from 3 to 7 months of age.

III. The placental lesions in brucellosis, vibriosis and mould or fungal infections in cattle appear similar.

IV. Isolation of the organism from the fetal lungs is not possible.

Which of the statements given above are correct ?

(a) II, III and IV
(b) I, II and III
(c) I, II and IV
(d) I, III and IV

10. Consider the following statements regarding hermaphrodites in cattle :

I. True hermaphrodites have both testes and ovaries or ovotestes.

II. Pseudohermaphrodites have gonads of only one sex.

III. Male pseudohermaphrodites phenotypically resemble females but have testes.

IV. Female pseudohermaphrodites resemble males but have ovaries.

Which of the statements given above are correct ?

(a) II, III and IV only
(b) I, II, III and IV
(c) I and II only
(d) III and IV only

11. Fetal mummification is an important cause of prenatal losses in which one of the following species ?

(a) Canine
(b) Swine
(c) Equine
(d) Bovine

12. Casting of the 'wethers' or casting of the 'calf bed' is known for the condition :

(a) Prolapse or eversion of the vagina
(b) Prolapse or eversion of the cervix
(c) Prolapse or eversion of the vagino-cervix
(d) Prolapse or eversion of the uterus

13. Which one of the following statements is correct ?

(a) Diffuse and endotheliochorial placenta is present in mares.
(b) Zonary type and epitheliochorial placenta is present in dogs.
(c) Epitheliochorial and endotheliochorial placenta are present in sheep and mares, respectively.
(d) Endotheliochorial and haemochorial placenta are present in cats and rodents, respectively.

14. In the mare, an irregular bare spot in the diffuse placenta of the chorion found over the internal os of the cervix, is called :

(a) Hippomane body
(b) 'Whirr-Thirr'
(c) Cervical star
(d) Red bag

15. Which of the following statements are correct ?

I. The period of ovum or blastula is about 10 to 12 days from the time of fertilization in cow.

II. The period of embryo and organogenesis extends from 12 to 15 days to about 45 days of gestation in cow.

III. The period of ovum or blastula is about 10 to 20 days from the time of ovulation in equine.

IV. The period of fetus and fetal growth extends from about 45 days of gestation to parturition in cow.

Select the answer using the code given below :

(a) I, II and III
(b) I, II and IV
(c) II, III and IV
(d) I, III and IV

16. Which of the following statements are correct regarding corpus luteum in cow ?

I. Corpus luteum of pregnancy is called corpus luteum verum.

II. As the pregnancy progresses, the corpus luteum tends to develop a darker golden-brown colour.

III. During pregnancy, the projection of corpus luteum above the surface of ovary is less prominent due to a heavy layer of epithelium and stroma that covers it.

Select the answer using the code given below :

(a) I and II only

(b) II and III only

(c) I and III only

(d) I, II and III

17. Consider the following statements regarding spermatogenesis in bovine :

I. Spermiogenesis is the formation of mature fertile spermatozoa from immature spermatids.

II. Spermatocytogenesis is under the regulation of FSH.

III. Spermiogenesis is under the control of LH and testosterone.

Which of the statements given above are correct ?

(a) I, II and III

(b) I and II only

(c) II and III only

(d) I and III only

18. In which species is the warmth of the vagina most important; and pressure and friction are less important as stimuli for ejaculation ?

(a) Stallion and boar

(b) Bull and ram

(c) Bull and boar

(d) Stallion and bull

19. Consider the following statements regarding X-rays and Gamma rays :

I. They are electromagnetic radiations.

II. They are produced from the inside of the nucleus of the atom.

III. Gamma rays are always more energetic than X-rays.

IV. Both can penetrate all matter to some degree.

Which of the statements given above are correct ?

(a) I and II

(b) III and IV

(c) II and III

(d) I and IV

20. Consider the following triplets :

	Type of Instrument	Example	Technique
I.	Non-critical	Laryngoscope	Requires high level disinfection before use between patients
II.	Semi-critical	Endotracheal tubes	Requires terminal cleaning before use between patients
III.	Critical	Implants and catheters	Requires sterilization

How many triplets are correctly matched ?

(a) One

(b) Two

(c) Three

(d) None

21. Which one of the following is an example of suture material having characteristics as synthetic absorbable monofilament with longest complete absorption period ?

(a) Polyglactin 910

(b) Polyglycolic acid

(c) Polyglyconate

(d) Polyester

22. Consider the following statements about dermabond (2-octylcyanoacrylate), a tissue adhesive :

I. It reaches maximum bonding strength in 30 minutes.

II. It is used for replacement of 4 – 0 to 5 – 0 or smaller suture material.

III. It should be avoided in bite or contaminated wounds.

IV. It is highly useful for skin in the area of high moisture content.

Which of the statements given above are correct ?

(a) I and II

(b) II and III

(c) III and IV

(d) I and IV

23. Consider the following statements about cryotherapy or cold packing for treating acute post injury pain or inflammation :

I. It is most effective when applied immediately after trauma.

II. It is effective up to 72 hours of injury.

III. It can be applied on superficial wounds and open fractures.

IV. It can be applied for one hour per session.

Which of the statements given above are correct ?

(a) I and II

(b) III and IV

(c) I and III

(d) II and IV

24. What are the advantages of glycopyrrolate over atropine ?

I. Glycopyrrolate is more potent than atropine.

II. Glycopyrrolate has faster onset of action.

III. Glycopyrrolate does not cross the placenta.

IV. Glycopyrrolate crosses the blood-brain barrier.

Select the correct answer using code given below :

(a) I and II

(b) III and IV

(c) I and III

(d) II and IV

25. Which of the following statements are correct about ketamine ?

I. It can cause seizure-like activity in dog when given alone.

II. It may increase Intra Cranial Pressure and Intra Occular Pressure.

III. It crosses placenta and causes depression of neurologic reflexes of neonates.

Select the answer using the code given below :

(a) I only

(b) I and II only

(c) II and III only

(d) I, II and III

26. The contrast radiography technique intended to examine kidneys and ureter is known as :

(a) Intravenous pyelography

(b) Crystography

(c) Fasciography

(d) Myelography

27. Consider the following statements about hip dysplasia in canine and feline :

I. The prevalence is lower in cats than in dogs.

II. In cats, most degenerative changes appear on craniodorsal acetabular margin.

III. In dogs, femoral head and neck are more affected.

Which of the statements given above are correct ?

(a) I and II only

(b) I and III only

(c) II and III only

(d) I, II and III

28. Consider the following statements in respect of appendicular osteosarcoma in canines :

I. It commonly originates from metaphysis.

II. It may be lytic or productive or mixed in nature.

III. Codman's triangle is not a specific sign of bone tumours.

Which of the statements given above is/are correct ?

(a) I only

(b) II only

(c) I and II

(d) II and III

29. In radiography, distension of canine stomach with gas and fluid along with its compartmentalization is suggestive of :

(a) Gastric dilatation

(b) Gastric dilatation volvulus

(c) Gastric foreign body

(d) Gastric tumour

30. The pleated, plicated, or bunched appearance of small intestinal loops on radiography in dogs and cats is suggestive of :

(a) Linear foreign body

(b) Peritonitis

(c) Pneumoperitoneum

(d) Intestinal atresia

31. A four-month-old buffalo calf is reported with complaint of not passing urine.

I. There is extensive subcutaneous infiltration of urine in ventral abdomen.

II. Sonography reveals urinary bladder is partially filled.

III. Calf is taking feed and water normally.

IV. The BUN (Blood Urea Nitrogen) and Serum Creatinine are within normal range.

The most likely diagnosis will be :

(a) Urinary bladder rupture

(b) Urethra rupture

(c) Rupture of ureters

(d) Kidney failure

32. Consider the following statements in respect of urolithiasis in bovines :

I. It is more common in castrated adult males.

II. The most common site of uroliths lodgement is sigmoid flexure.

III. Majority develop metabolic acidosis.

IV. Most cases have hypokalemia and hypernatremia.

Which of the statements given above are correct ?

(a) I and II

(b) III and IV

(c) I and III

(d) II and IV

33. In a radiograph, megacolon in cats is diagnosed when the diameter of colon is more than 1·5 times of :

(a) L4 vertebra length

(b) L5 vertebra length

(c) L6 vertebra length

(d) L7 vertebra length

34. The predominant clinical sign of regurgitation or dysphagia, along with ptylism weight loss; sometimes coughing and fever in dogs are suggestive of :

(a) Peritonitis

(b) Pyloric stenosis

(c) Esophageal pathology

(d) Intestinal obstruction

35. The high complication rate after esophageal surgery is due to :

I. Lack of serosal covering

II. Segmental blood supply

III. Constant motion

IV. Distension during passage of ingesta

Which of the statements given above are correct ?

(a) I and III only

(b) II and IV only

(c) I, II and III only

(d) I, II, III and IV

36. In a puppy there is regurgitation at weaning with introduction of solid food, pneumonia and weight loss. On radiography of thorax, there is oesophageal dilatation cranial to heart base and deviation of trachea to left side. These are suggestive of :

(a) Cardiomegaly

(b) Right atrial enlargement

(c) Left ventricular hypertrophy

(d) Persistent Right Aortic Arch

37. Which one of the following toxins produced by *Bacillus anthracis* is responsible for preventing clotting of blood in diseased animals ?

(a) Protective antigen

(b) Lethal factor

(c) Fibrinolysin

(d) Oedema factor

38. Consider the following statements :

I. Infectious haemoglobinuria is caused by *Clostridium haemolyticum* which is characterized by high rise of body temperature, jaundice, haemoglobinuria and necrotic infarcts in the liver.

II. The organism causing infectious haemoglobinuria produces haemolysin toxin causing haemolysis and jaundice, and necrotizing toxin responsible for formation of the thrombus in the sub-terminal branch of portal vein.

Which of the statements given above is/are correct ?

(a) I only

(b) II only

(c) Both I and II

(d) Neither I nor II

39. A fresh cow is suffering from peracute mastitis and the secretion from the udder is pus-like and foul smelling. The abscesses develop in the affected part of the udder, which ripen and break open discharging pus, leading to destruction of the quarter. Which one of the following organisms is responsible to cause this type of mastitis ?

(a) *Mycobacterium bovis*

(b) *Mucoplasma agalactiae*

(c) *Pseudomonas aeruginosa*

(d) *Corynebacterium pyogenes*

40. Consider the following statements :

I. Normal pH of milk is between 6·4 and 6·8 but during mastitis it becomes below 6·4.

II. The anionic detergent present in the California Mastitis Test (CMT) reagent reacts with DNA present in the leukocytes, resulting in thickening of contents.

III. Electrical Conductivity (EC) of mastitic milk increases owing to increase in sodium and chloride ions.

Which of the statements given above are correct ?

(a) I and II only
(b) I and III only
(c) II and III only
(d) I, II and III

41. Which one of the following infectious diseases of pigs is characterized by a febrile reaction with development of vesicles in mouth, snout, feet, udder and teats ?

(a) African swine fever
(b) Vesicular exanthema
(c) Hog cholera
(d) Swine erysipelas

42. Consider the following statements :

I. Lumpy skin disease causal virus prototype strain is known as the Neethling poxvirus.

II. Nodules of lumpy skin disease in cattle are well circumscribed, round, slightly raised, firm and painful and involve entire cutis.

III. Pseudo-lumpy skin disease is caused by Bovine Herpes Virus 2.

Which of the statements given above are correct ?

(a) I and II only
(b) I and III only
(c) II and III only
(d) I, II and III

43. Consider the following statements :

I. Clinical finding of a transient fever usually occurs at 3 – 6 days after infection, as there may be leukopenia. The fever subsides for several days before second fever occurs which is indicative of canine distemper.

II. In canine distemper, a longer course of illness is associated with the presence of neurological signs.

Which of the statements given above is/are correct ?

(a) I only
(b) II only
(c) Both I and II
(d) Neither I nor II

44. Consider the following statements :

I. There are seven major serotypes of aphthovirus and all differ in antigenicity and virulence.

II. This virus is very fragile/sensitive to external influences, most of disinfectants and meat storage practices.

Which of the statements given above is/are correct ?

(a) I only
(b) II only
(c) Both I and II
(d) Neither I nor II

45. Consider the following statements :

I. The major crossmatch detects antibodies already present in the recipient plasma that could cause haemolytic reaction when donor RBCs are transfused.

II. A positive, or incompatible test can have haemolysis or haemagglutination or both.

Which of the statements given above is/are correct ?

(a) I only
(b) II only
(c) Both I and II
(d) Neither I nor II

46. Consider the following statements :

I. ACE inhibitors are commonly used in heart failure management in dogs.

II. Digitalis glycosides exert their effects by inhibiting membrane Na^+/K^+ ATPase.

III. Sidenafil is a potent phosphodiesterase inhibitor used to treat moderate to severe pulmonary hypertension in dogs.

Which of the statements given above are correct ?

(a) I and II only
(b) I and III only
(c) II and III only
(d) I, II and III

47. Which one of the following electrolyte imbalances is primarily associated with synchronous diaphragmatic flutter in horses and dogs ?

(a) Hypomagnesemia
(b) Hypocalcemia
(c) Hypokalemia
(d) Hyponatremia

48. Which one of the fungal diseases is a localized mucocutaneous disease of animals ?

(a) Candidiasis
(b) Cryptococcosis
(c) Blastomycosis
(d) Aspergillosis

49. Dilated Cardiomyopathy (DCM) in which an inherent myocardial disease results in a decrease in myocardial contractility, is a classical example of which one of the following conditions ?

(a) Systolic Dysfunction
(b) Diastolic Dysfunction
(c) Compensatory Mechanism
(d) RAAS activation

50. Consider the following statements :

I. Ingestion of toxic amounts of highly fermentable carbohydrates is followed by marked increase in Gram-negative bacteria in ruminants.

II. The low ruminal pH causes a chemical rumenitis and the absorption of L-lactate which result in lactic acidosis and acidemia.

III. The body temperature of animals having grain overload is usually below normal, however in animals exposed to sun in hot weather, it may be increased.

Which of the statements given above is/are correct ?

(a) I only
(b) I and II
(c) III only
(d) II and III

51. Which one of the following is recommended for treatment and prevention of sand impaction colic in horses ?

(a) Magnesium sulphate
(b) Mineral oil
(c) Dioctyl sodium sulphosuccinate
(d) Psyllium

52. Which one of the following appears to be beneficial in treating enteric clostridial infection in foals ?

(a) Oxytetracycline
(b) Doxycycline
(c) Metronidazole
(d) Bismuth subsalicylate

53. Which one of the following benzimidazoles is effective against tapeworms in cattle and sheep ?

(a) Rafoxanide
(b) Salicylanilides
(c) Closantel
(d) Oxfendazole

54. Consider the following statements :

I. Increased serum GGT concentration most commonly indicates bile duct disease.

II. Serum concentration of bile acids is highly specific for liver dysfunction in animals.

Which of the statements given above is/are correct ?

(a) I only
(b) II only
(c) Both I and II
(d) Neither I nor II

55. As per mode of secretion, which of the following statements are correct for merocrine type of glands ?

I. The secretory product is in the form of small secretory granules.

II. The secretory granules are called granulated vesicles.

III. Sebaceous glands are example of merocrine gland.

IV. Secretory granules are transferred from one cell to cytoplasm of another cell.

Select the answer using the code given below :

(a) I and III

(b) II and IV

(c) I and II

(d) III and IV

56. Reticular fibers of a tissue or organ can be demonstrated by which one of the following stains ?

(a) Silver stains and Weigert's method

(b) Silver stains and Periodic Acid Schiff stain

(c) Silver stains and haematoxylin and eosin stains

(d) Silver stains and Oil Red O method

57. Consider the following pairs :

I.	Cerebrum	–	Purkinje fibers
II.	Heart	–	Purkinje cells
III.	Cerebellum	–	Pyramidal neurons

How many of the above are correctly matched ?

(a) One

(b) Two

(c) Three

(d) None

58. Consider the following synonyms about tarsals of horses :

I.	Central tarsal	:	Cuneiform
II.	Fibular tarsal	:	Os calcis
III.	Fourth tarsal	:	Cuboid
IV.	Third tarsal	:	Scaphoid

How many of the pairs given above are correctly matched ?

(a) One

(b) Two

(c) Three

(d) All four

59. The dens of the axis vertebra is wide and its dorsal surface is deeply concave from side to side. This is found in which one of the following species ?

(a) Ox

(b) Horse

(c) Pig

(d) Dog

60. Which one of the following statements is correct ?

(a) Os rostri or prenasal bone is located in the snout between the nostrils of pig.

(b) Os cordis is a splanchnic bone located towards the apex of heart of ox.

(c) Os penis is a splanchnic bone situated towards the bulbus glandis of penis of dog.

(d) Os phrenic is a splanchnic bone present in gall bladder of camel.

61. Stomodeum is a depression between developing brain and pericardium, and it gives rise to :

(a) Neck of the embryo
(b) Eyes and ears
(c) Primitive fore gut
(d) Primitive mouth cavity

62. Morphogenesis is related with changes in shape and organization of body and its organs. Which of the following processes are involved ?

I. Cell migration
II. Cell aggregation and localized growth
III. Fusion, splitting
IV. Folding

Select the correct answer using the code given below :

(a) I, III and IV
(b) II, III and IV
(c) I and II only
(d) I, II, III and IV

63. Consider the following statements regarding placenta on the basis of gross shape and histological structure :

I. Sow has diffuse and epitheliochorial placenta.
II. Bitch has zonary and haemochorial placenta.
III. Primates have discoidal and haemochorial placenta.
IV. Mare has diffuse and haemoendothelial placenta.

Which of the statements given above are correct ?

(a) II and III
(b) I and IV
(c) III and IV
(d) I and III

64. Which of the following statements in the context of endothelial cell contraction in inflammation is ***not*** correct ?

(a) It is the commonest mechanism of increased permeability.
(b) It is responsible for immediate transient response.
(c) It commonly affects venules, capillaries and arterioles.
(d) It is associated with the release of histamine, substance P and bradykinin.

65. Atypical hyperplasia exhibits considerable variation in size, shape and usually has deeply stained nuclei that are abnormally large in size with the loss of uniformity of individual cells and a loss in their architectural orientation. This condition is typically known as :

(a) Metaplasia
(b) Hyperplasia
(c) Dysplasia
(d) Hypertrophy

66. The disease in animals characterized by hyperplasia and hypertrophy of the alveolar epithelium, giving it a glandular or nodular appearance is known as :

(a) Ovine progressive pneumonia or Maedi
(b) Pulmonary adenomatosis or Jaagsiekte
(c) Interstitial pneumonia
(d) Aspiratory or Gangrenous pneumonia

67. In which type of hyaline degeneration condition are Corpora Amylacea bodies seen ?

(a) Connective tissue hyaline

(b) Epithelial hyaline

(c) Muscle hyaline

(d) Zenker's necrosis

68. An animal is suffering from haemoprotozoan infection, showing splenomegaly, intense yellow coloured faeces, and light yellow coloured urine. The Van den Bergh reaction was indirect. What is the type of jaundice in the animal ?

(a) Toxic jaundice

(b) Obstructive jaundice

(c) Hemolytic jaundice

(d) Hepatic jaundice

69. Hepoxic death of cells by carbon monoxide/cyanide poisoning, thiamine deficiency in cats, vitamin E deficiency in chicken, exposure to mercuric chloride and zinc chloride chemicals produce which type of necrosis ?

(a) Coagulative necrosis

(b) Fat necrosis

(c) Caseous necrosis

(d) Liquefactive necrosis

70. In heart/cardiac muscle fibres, thrush breast or 'tigered effect' is induced by :

(a) Increased amount of lipotropic factors

(b) Increased apoprotein synthesis

(c) Moderate hypoxia due to anemia

(d) Increased lipoprotein secretion from liver

71. When right-sided heart failure occurs in animals due to defects/lesions in right atrio-ventricular valve or in lungs, it causes which of the following ?

I. Brown induration of lungs

II. Defects in mitral valve

III. Nutmeg pattern of liver and atrophy due to chronic hypoxia

IV. Cardiac cirrhosis or Cardiac sclerosis

Select the correct answer using the code given below :

(a) I only

(b) I and II

(c) III only

(d) III and IV

72. An animal was suffering from proteinuria with high TLC values (30 – 40 × $10^3/\mu L$), anemia with anisocytosis and poikilocytosis. Blood smear examination showed 90 – 95% granulocytes may constitute 90 – 95% and 5 – 10% myelocytes. Renal function parameters were in normal level. What is the condition ?

(a) Urinary bladder cancer

(b) Transitional cell carcinoma

(c) Ewing's tumour/Multiple myeloma

(d) Defects in glomerular filtration due to renal cell carcinoma

73. Which of the following neurotransmitters are responsible for inhibitory postsynaptic potential ?

(a) Acetylcholine and Glutamate

(b) Acetylcholine and GABA

(c) Glutamate and Glycine

(d) Glycine and GABA

74. Consider the following events during a typical skeletal muscle contraction :

I. Pumping of Ca^{++} back to sarcoplasmic reticulum

II. Binding of ATP to myosin cross-bridge heads

III. Motor end plate potential releases Ca^{++} from calcium stores into the sarcoplasm

IV. Attachment of Myosin head to active sites of actin

What is the correct sequence of the above events ?

(a) I, III, II, IV

(b) III, IV, II, I

(c) I, IV, II, III

(d) III, I, II, IV

75. Which of the following hormone(s) is/are responsible for absorption of dietary calcium and phosphorus in the intestine ?

(a) Calcitonin

(b) 1, 25-Dihydroxy cholecalciferol

(c) Parathyroid hormone

(d) Both Calcitonin and Parathyroid hormone

76. Which of the following statements about astrocyte function are correct ?

I. Regulate glucose transport across the capillary endothelium.

II. Regulate extracellular pH and osmolarity across the capillary endothelium.

III. Regulation of glutamate metabolism and activity of Blood-Brain Barrier.

IV. Phagocytosis of extracellular pathogens and their removal from brain.

Select the answer using the code given below :

(a) I, II and IV

(b) I, III and IV

(c) II, III and IV

(d) I, II and III

77. Which of the following are the most commonly used substances for measurement of extracellular fluid (ECF) ?

(a) Insulin and Phthalate

(b) Thiocyanate and Evan's dye

(c) Inulin and Thiocyanate

(d) Creatinine and Phthalate

78. Consider the following steps/stages with which neutrophils migrate to the sites of injury to bring out phagocytosis :

I. Chemotaxis

II. Amoeboid movement

III. Diapedesis

IV. Margination

V. Tissue injury

What is the correct sequence of above steps/stages ?

(a) V, I, IV, III, II

(b) V, II, IV, III, I

(c) V, I, III, IV, II

(d) V, I, II, III, IV

79. Which one of the following agents/drugs is safer to use in a patient with compromised renal and hepatic function ?

(a) Amphotericin B

(b) Acetaminophen

(c) Atracurium

(d) Neomycin

80. Which of the following statements are correct in respect of β-lactam antimicrobials ?

I. The core structure responsible for antibacterial activity of penicillin is 6-aminopenicillanic acid.

II. Penicillin V is an acid-resistant penicillin.

III. The 'suicidal inhibitor' Sulbactam is combined with Ampicillin to broaden their antibacterial spectra.

IV. Aztreonam is a polycyclic β-lactam antibiotic which is highly effective against anaerobes.

Select the correct answer using the code given below :

(a) I and III

(b) II and IV

(c) II and III

(d) I and II

81. Cilastatin is combined with Imipenem to :

(a) reduce their degradation by β-lactamase producing bacteria

(b) inhibit dipeptidase enzyme and to reduce renal metabolism

(c) reduce their adverse effects such as hypersensitivity reaction and CNS disorders

(d) increase their antibacterial spectrum

82. Consider the following statements :

I. Acidic drugs generally bind with α1-acid glycoprotein.

II. Glucuronyl transferase is a microsomal enzyme which is not inducible by drugs and diets.

III. Rifampicin, an anti-tubercular drug, usually exhibits the phenomenon of auto-induction.

IV. Cellular uptake of insulin is mediated by pinocytosis.

Which of the statements given above are correct ?

(a) I and II

(b) II and III

(c) III and IV

(d) I and IV

83. Which one of the following drugs selectively inhibits RNA-dependent DNA polymerase to exert its antimicrobial effect ?

(a) Amiloride

(b) Zidovudine

(c) Ganciclovir

(d) Oseltamivir

84. Which one of the following is considered to be the first line of therapy in 'cryptococcal meningitis' in dog ?

(a) Amphotericin B alone

(b) Amphotericin B with Flucanazole

(c) Amphotericin B with Griseofulvin

(d) Amphotericin B with 5-Flucystosine

85. Consider the following statements regarding β-propiolactone :

I. It is widely used for production of inactivated veterinary vaccine.

II. Antimicrobial activity is independent of temperature and concentration.

III. Inactivation is attributed to alkylation of DNA.

Which of the statements given above are correct ?

(a) I and II only

(b) I and III only

(c) II and III only

(d) I, II and III

86. Consider the following disease conditions and their associated etiological agents :

I.	Lumpy Jaw	– *Actinomyces bovis*
II.	Contagious equine metritis	– *Taylorella equigenitalis*
III.	Glasser's disease	– *Haemophilus parasuis*
IV.	Calf diphtheria	– *Dichelobacter nodosus*

How many of the pairs given above are correctly matched ?

(a) One

(b) Two

(c) Three

(d) All four

87. Consider the following regarding Macrolide group of antimicrobial drugs :

I. Inhibit protein synthesis by blocking 30S ribosomal activity

II. Bacteriostatic in effect

III. Broad spectrum in activity

IV. Used for treatment of mycoplasma infection

Which of the above are ***not*** correct ?

(a) I and II only

(b) I and III only

(c) I, III and IV

(d) II, III and IV

88. Consider the following pairs of Mycotoxins and fungus organisms producing them :

I.	Ergotamine	– *Claviceps purpurea*
II.	Sporidesmin	– *Pithomyces chartarum*
III.	Fumonisin	– *Penicillium citrinum*
IV.	Zearalenone	– *Fusarium graminearum*

How many of the pairs given above are correctly matched ?

(a) One

(b) Two

(c) Three

(d) All four

89. Consider the following statements :

Statement-I :

Bovine genome usually contains large number of genes associated with innate immunity.

Statement-II :

Rumen contains huge load of microorganisms.

Which one of the following is correct in respect of the above Statements ?

(a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I

(b) Both Statement-I and Statement-II are correct but Statement-II does not explain Statement-I

(c) Statement-I is correct but Statement-II is not correct

(d) Statement-I is not correct but Statement-II is correct

90. Consider the following characteristic :

"Enveloped virus, icosahedral symmetry, Linear single molecule of positive-sense, single-stranded RNA"

Which one of the following RNA virus family members does ***not*** represent the above characteristic ?

(a) Arteri viridae

(b) Corona viridae

(c) Flavi viridae

(d) Toga viridae

91. Which one of the female parasites does ***not*** exhibit "Barber's pole" appearance ?

(a) *Haemonchus contortus*

(b) *Angiostrongylus vasorum*

(c) *Marshallagia marshalli*

(d) *Mecistocirrus digitatus*

92. What is the etiological agent of sheep measles ?

(a) *Taenia hydatigena*

(b) *Taenia ovis*

(c) *Taenia tarandi*

(d) *Taenia multiceps*

93. In chronic fasciolosis, which of the following anaemia are generally recorded ?

(a) Normocytic and normochromic

(b) Normocytic and hypochromic

(c) Microcytic and normochromic

(d) Macrocytic and hypochromic

94. Which of the following are subunit vaccines against parasites ?

(a) Paracox and Eimeriavax 4M

(b) Bovilis Neoguard and Paracox

(c) GiardiaVax and Coccivac

(d) CoxAbic and CaniLeish

95. What is the mode of action of afoxolaner ?

(a) GABA receptor agonist

(b) GABA receptor antagonist

(c) Chitin synthesis inhibitor

(d) Chitin deposition inhibitor

96. Which of the following parasitic infections result in tumour formation in their respective hosts ?

I. *Gnathosoma spinigerum*

II. *Mecistocirrus digitatus*

III. *Draschia megastoma*

IV. *Mammomonogamus laryngeus*

Select the correct answer using the code given below :

(a) I, II and III

(b) II, III and IV

(c) I and III only

(d) III and IV only

97. Which of the following statements are correct about Meiosis ?

I. It is reduction division at first anaphase.

II. Chromosomes synapse and form chiasmata.

III. It begins at zygotic stage and continues throughout the life of organism.

IV. Genetic contents of daughter cells are different.

Select the correct answer using the code given below :

(a) I, II and III

(b) I, II and IV

(c) I, III and IV

(d) II, III and IV

98. Which one of the following is ***not*** an example of incomplete dominance ?

(a) Pink colour in Four o'clock plant

(b) Blue plumage in Andalusian poultry

(c) Roan coat colour in cattle

(d) Walnut comb in poultry

99. Mahogany coat colour, as an example of sex-influenced factors, is observed in which one of the following breeds of cattle ?

(a) Jersey

(b) Brown-Swiss

(c) Holstein-Friesian

(d) Ayreshire

100. Which of the following are the examples of negative correlation among the livestock traits given below ?

I. Milk yield and fat percentage in dairy cattle

II. Feed efficiency and growth

III. Egg production and egg size

IV. Horn length and milk yield

Select the correct answer using the code given below :

(a) II and III

(b) III and IV

(c) I only

(d) I and III

101. Which of the following statements are correct regarding forces affecting Hardy-Weinberg equilibrium ?

I. Systematic forces like mutation, migration and selection act in both large and small populations.

II. Dispersive forces like genetic drift and inbreeding cannot be predicted in amount and can be predicted in direction.

III. Systematic forces like mutation, migration and selection can be predicted in amount and direction.

Select the answer using the code given below :

(a) I and II only

(b) II and III only

(c) I and III only

(d) I, II and III

102. Consider the following statements :

Statement-I :

Excess feeding of Subabul forage may lead to toxicity in ruminants causing alopecia, enlarged thyroid gland, lower serum T3 and T4 hormone and weight loss.

Statement-II :

Subabul contains mirosinase enzyme that forms 3, 4-DHP during rumen fermentation which is a potent gioterogenic compound.

Which one of the following is correct in respect of the above Statements ?

(a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I

(b) Both Statement-I and Statement-II are correct but Statement-II does not explain Statement-I

(c) Statement-I is correct but Statement-II is not correct

(d) Statement-I is not correct but Statement-II is correct

103. Consider the following statements :

Statement-I :

Digestibility coefficients are estimated only for organic nutrients.

Statement-II :

Inorganic nutrients do not contribute to the energy content of feed and are mostly excreted through the gut.

Which one of the following is correct in respect of the above Statements ?

(a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I

(b) Both Statement-I and Statement-II are correct but Statement-II does not explain Statement-I

(c) Statement-I is correct but Statement-II is not correct

(d) Statement-I is not correct but Statement-II is correct

104. Consider the following statements regarding control systems of gastrointestinal functions :

I. Vagus and splanchnic nerves constitute the extrinsic control system of GI functions.

II. Aldosterone hormone is the only extrinsic hormonal control system of GI functions.

III. Intrinsic and extrinsic control systems of the GI functions are digestive in nature.

Which of the statements given above are correct ?

(a) I, II and III

(b) I and II only

(c) II and III only

(d) I and III only

105. Which one of the following elements is required for proper iron metabolism ?

(a) Ca

(b) Zn

(c) Cu

(d) Co

106. Consider the following statements regarding VFAs :

I. Acetate is the only VFA found in appreciable quantity in peripheral circulation in ruminants.

II. Acetate is used for energy as well as milk fat synthesis.

III. Propionate is the primary source of glucose for ruminants.

IV. Butyric acid is absorbed as ketone body and used for energy purpose.

Which of the statements given above are correct ?

(a) II, III and IV only

(b) I and IV only

(c) I, II and III only

(d) I, II, III and IV

107. Change in prevalence of a disease can be due to which of the following reasons ?

I. A change in incident rate

II. A change in the average duration of the disease

Select the correct answer using the code given below :

(a) I only

(b) II only

(c) Both I and II

(d) Neither I nor II

108. Consider the following statements :

I. Case control study compares diseased animals (cases) with non-diseased animals (controls).

II. Case control study can also be described as prospective study.

III. Cohort study selects groups according to presence or absence of exposure to hypothesized causal factors and then looks forward to the development of disease.

Which of the statements given above is/are correct ?

(a) I only

(b) III only

(c) I and III only

(d) I, II and III

109. Consider the following statements regarding vaccination on a dairy farm :

I. Only healthy animals should be vaccinated.

II. Advance pregnant animals should not be vaccinated.

III. Calves below 3 months of age should not be vaccinated.

Which of the statements given above are correct ?

(a) I and II only
(b) II and III only
(c) I and III only
(d) I, II and III

110. Consider the following statements regarding dehorning of a cattle calf :

I. For chemical dehorning, caustic soda is used.

II. In rubber band method of dehorning, no open wound is formed.

III. In electrical dehorning, the rod temperature is about 1000°F.

Which of the statements given above are correct ?

(a) I and II only
(b) II and III only
(c) I and III only
(d) I, II and III

111. Consider the following statements :

I. Pigs are omnivorous.

II. Pigs like to graze or chew forages.

III. Pigs can root-out their feed from ground.

IV. Pigs are in competition with humans for feed.

Which of the statements given above are correct ?

(a) I and II only
(b) III and IV only
(c) I, II and IV only
(d) I, II, III and IV

112. Consider the following statements with reference to Molasses feeding :

I. Molasses act as appetiser.

II. Molasses act as a binder for pelleting.

III. Molasses stimulate rumen microbial activity.

Which of the statements given above is/are correct ?

(a) II only
(b) I and II only
(c) I and III only
(d) I, II and III

113. Which of the following statements are correct regarding meat curing ?

I. Nitrites are added to inhibit *Clostridium botulinum*.

II. The stable colour of cured and cooked meat products is because of nitrosohaemochromogen.

III. The temperature of curing room is maintained at 3 ± 1 °C.

Select the answer using the code given below :

(a) I and II only
(b) II and III only
(c) I and III only
(d) I, II and III

114. The most abundant fatty acid in meat is :

(a) Oleic acid
(b) Palmitic acid
(c) Linoleic acid
(d) Stearic acid

115. Which of the following tests is/are used to determine heat stability of milk ?

I. Clot-on-Boiling Test

II. Alcohol-Alizarin Test

III. Alcohol Test

IV. Acidity Test

Select the correct answer using the code given below :

(a) I only

(b) III only

(c) I, II and IV

(d) I, II and III

116. The process of treating hides with proteolytic enzymes to make it soft and pliable is referred to as :

(a) Liming

(b) Pickling

(c) Fat liquoring

(d) Bating

117. Which of the following statements are correct regarding Gender equity and Gender equality ?

I. Gender equality refers to the process of being fair to women and men.

II. Gender equality leads to gender equity.

III. Gender equity is essential to achieve true gender equality.

IV. Gender equality requires equal enjoyment by women and men of socially-valued goods, opportunities, resources.

Select the answer using the code given below :

(a) I and II

(b) III and IV

(c) I and III

(d) II and IV

118. Which one of the following is ***not*** a system of farming ?

(a) Collective farming

(b) Mixed farming

(c) Capitalistic farming

(d) Peasant farming

119. Which of the following statements are correct about extension ?

I. Extension is education for all people.

II. Extension is a continuous educational process.

III. Extension is helping people to help themselves.

Select the answer using the code given below :

(a) I and II only

(b) II and III only

(c) I and III only

(d) I, II and III

120. Which of the following statements are correct about Extension Programme Management ?

I. Programme Formulation phase involves drawing action plan and implementing activities.

II. Programme Execution phase involves formulating plan and area appraisal.

III. Programme Evaluation phase includes processing results and reconsideration.

IV. Programme Formulation phase involves determining objectives and appraisal of area.

Select the answer using the code given below :

(a) I and II

(b) II and IV

(c) III and IV

(d) I and III

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