

Sikkim Public Service Commission

Main Written Examination for the Post of Veterinary Officer & Equivalent

Paper II

Time Allowed : 3 Hrs

Maximum Marks : 300

INSTRUCTIONS TO CANDIDATES

Read the following instructions carefully before answering the questions :-

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 fill in the Roll Number carefully and without any omission or discrepancy at the appropriate places in the **OMR ANSWER SHEET** for MCQ. Any omission/discrepancy will render the Answer Sheet liable for rejection.
3. **Use only Black Ball Point Pen to fill the OMR sheet**
4. Do not write anything else on the OMR Answer Sheet except the required information.
5. **This Test Booklet is divided into three sections. Section A - MCQ mode, Section B - Short answer & Section C - Long answer questions.**
6. **All items from Section A carries 2 marks each, MCQ type questions has to be marked in the OMR sheet provided. Section B consists of short answer type questions of 100 marks & Section C long answer type questions of 100 marks, which has to be written separately in the Answer sheet provided.**
7. Before you proceed to mark in the Answer Sheet (OMR), you have to fill in some particulars in the Answer Sheet (OMR) as per given instructions.
8. After you have completed filling in all your responses on the Answer Sheet (OMR) and the examination has concluded, you should hand over the Answer Sheet (OMR) to the Invigilator only. You are permitted to take away with you the Test Booklet.
9. **Marking Scheme**
THERE WILL BE NEGATIVE MARKING FOR WRONG ANSWERS MARKED BY A CANDIDATE IN THE OBJECTIVE TYPE QUESTION PAPERS.
 - (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 the 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.

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

Section A

Multiple Choice Questions

[50 x 2 = 100]

1. **A complete disease diagnosis consists of identification of**
 - A) the clinical manifestation of that abnormality produced by the causative agent
 - B) the specific cause of the illness
 - C) abnormality of structure or function (the disease) produced by the causative agent
 - D) A, B and C only
2. **The clinical examination of an individual animal consists of**
 - A) examination of history
 - B) examination of history, animal and environment
 - C) examination of history and animal
 - D) thorough examination of animal only
3. **Intensive intravenous fluid and electrolyte therapy is highly necessary in which of the following ruminal dysfunction condition(s)?**
 - A) Simple indigestion
 - B) Carbohydrate engorgement
 - C) Ruminal tympany
 - D) a and c only
4. **Summer mastitis is caused by**
 - A) *Rueperella pyogenes*
 - B) *Staphylococcus aureus*
 - C) *Escherichia coli*
 - D) A and C only
5. **Which of the following is a highly fatal, economically important, acute septicemic disease predominantly affecting water buffaloes and cattle and causes heavy death losses in endemic regions. The disease is listed on list B of the World Organization for Animal Health (OIE).**
 - A) Black leg
 - B) Enterotoxemia
 - C) Hemorrhagic septicemia
 - D) Rinderpest
6. **In which of the following disease hematology and blood chemistry examinations are not conducted due to the risk for human exposure?**
 - A) Peracute blackleg
 - B) Salmonellosis
 - C) Anthrax
 - D) Bovine Spongiform Encephalopathy

7. Which of the following is not a metabolic disease of ruminants?
- A) Parturient paresis
 - B) Acute hypokalemia
 - C) Goitre
 - D) Hyperketonemia
8. The recommended critical time threshold after which tissue damage can potentially occur in the major hind limb muscles and the peripheral sciatic nerve and its branches of persistently recumbent cows is
- A) 3 hours
 - B) 6 hours
 - C) 12 hours
 - D) 24 hours
9. Which of the following statement is wrong with respect to low-milk-fat-syndromme (LMFS) in cattle?
- A) In LMFS, the fat percent in milk is lower
 - B) In LMFS, the volume of milk secreted is normal
 - C) Fully hydrogenated fatty acids in rumen when absorbed into the blood have an inhibitory effect on lipogenesis leading to LMFS
 - D) LMFS occurs most commonly in cows on low-fiber diets like lush, irrigated pasture or very finely ground grain rations
10. Parakeratosis in growing pigs is associated with the following mineral
- A) Zinc
 - B) Molybdenum
 - C) Iron
 - D) Selenium
11. Which of the following is a highly infectious pestivirus infection of pigs characterized by sudden onset of peracute deaths, purplish discoloration of skin, ocular discharge, nervous signs, death and reproductive failure in pregnant sows
- A) Hog cholera
 - B) Aujeszky's Disease
 - C) Erysipelas
 - D) Salmonellosis
12. The metacestode of which adult tapeworm of humans is commonly found in the striated musculature of cattle?
- A) Taenia saginata
 - B) Taenia solium
 - C) Taenia multiceps
 - D) Echinococcus granulosus

13. 'Pipe-stem' faeces in calves is associated with
- A) Babesiosis
 - B) Theileriosis
 - C) Anaplasmosis
 - D) b and c only
14. Which of the following disease commonly known as 'goat plague' results in post-mortem findings of stomatitis, enteritis, and syncytial giant cell pneumonia with history of recent introduction of new stock?
- A) Contagious caprine pleuropneumonia in goats
 - B) Helminthosis
 - C) Coccidiosis
 - D) Peste des petits ruminants
15. Pain management principle(s) followed in surgery is(are)
- A) multimodal analgesia
 - B) preemptive analgesia
 - C) central sensitization
 - D) a and b only
16. Which is the most commonly used drug combination for nondomestic felid immobilization among the following.
- A) Etorphine plus promazine
 - B) Ketamine plus an alpha-2 adrenergic agonist
 - C) Chlorpromazine
 - D) A and C only
17. Most common absorbable suture material used in surgery is
- A) Catgut
 - B) Silk
 - C) PGA
 - D) Cotton
18. Removal of both ovaries and uterus is called as
- A) pan hysterectomy
 - B) oophorectomy
 - C) hysterotomy
 - D) hysterectomy
19. Exhaustion ofleads to onset of rigor mortis in postmortem muscles
- A) Glycogen
 - B) ATP
 - C) Lactic acid
 - D) Glycolytic enzymes

20. In which of the following route of administration of anesthetics, there is immediate onset of action, rapid peaking effect, shorter duration of action and generally more intense effects than other routes?
- A) Transdermal
 - B) Intramuscular
 - C) Intravenous
 - D) Subcutaneous
21. Which method of anaesthesia is preferred for cesarean section of dogs/ cats in shock when the use of other analgesic or anesthetic agents is contraindicated?
- A) Bier block
 - B) Lumbosacral epidural anesthesia
 - C) Ultrasound guided rear limb block
 - D) Brachial plexus block
22. Which of the following amino acid is non-essential for poultry feeding?
- A) Alanine
 - B) Aspartic acid
 - C) Glycine
 - D) Proline
23. Which of the following statement is false?
- A) Roughages have a crude fiber content of more than 18 percent
 - B) Roughages can be either legume or nonlegume and legume roughages have higher protein content than nonlegume roughages
 - C) Concentrates can be energy feeds or protein supplements
 - D) Protein supplements have more than 80 percent protein content
24. Which of the following statements is correct?
- A) Creep feeding means providing extra feed to pregnant animals
 - B) Creep feeding is done when cows are in excellent milking conditions
 - C) Creep feeding is advantageous under all conditions
 - D) Creep feeding means a method of providing extra grain/ commercial creep feed mix/roughage feed to calves
25. Ovulation occurs in ewes at
- A) onset of LH surge
 - B) Last day of estrous cycle nearer the end
 - C) 5 hrs after onset of estrous
 - D) 5 hrs after LH surge
26. Which of the following is not a wool grading system?
- A) Blood system
 - B) Spinning count system
 - C) Micron system
 - D) Australian wool count system

27. Which of the following is not an analytical organoleptic test for meat?

- A) Paired preference test
- B) Triangle test
- C) Paired comparison test
- D) Duo-Trio test

28. Making silage of crops with very low moisture content leads to

- A) Heat damage
- B) Brighter attractive colour
- C) Improved nutrient preservation
- D) Less appealing for animals

29. Which of the following statements is false?

- A) Sterile female born co-twin to a male is known as freemartin
- B) Sterile male born co-twin to a female is known as freemartin
- C) XX/XY chimerism is observed in leucocytes of a freemartin
- D) Other than leucocytes and erythrocytes, all other cells of freemartin or its co-twin contains XX in females and XY in males

30. Gestation length in swine

- A) 333 days
- B) 222 days
- C) 111 days
- D) 210 days

31. Meat Inspection denotes

- A) Antemortem examination of animals
- B) Postmortem examination of carcass and all offals
- C) Laboratory tests carried out in support of a and b, above
- D) a, b and c only

32. Which of the following is not Hardy-Weinberg Law?

- A) Genotypic frequencies in offspring are determined solely by gene frequencies.
- B) The frequency of homozygotes equals the square of the relevant gene frequency
- C) The frequency of heterozygotes equals twice the product of the relevant gene frequency
- D) Gene frequencies and genotypic frequencies vary from one generation to the next.

33. What is the haploid chromosome number in pigs?

- A) 30
- B) 60
- C) 19
- D) 38

34. Drawer syndrome occur due to rupture of

- A) Sacrosciatic ligament
- B) Cruciate ligament
- C) Suspensory ligament
- D) Achillis tendon

35. The fat content in double toned milk is

- A) 0.5 %
- B) 1.5 %
- C) 3.0%
- D) 4.5%

36. Heritability h^2 can be represented as

- A) V_A/V_P
- B) V_A/V_G
- C) V_G/V_P
- D) a and c

37. The objectives of cross breeding is / are

- A) Heterosis
- B) Exploiting the complementarity of breeds or lines
- C) Protection of the genetic improvement in the selection lines of commercial companies
- D) a, b and c only

38. Which of the following statements is wrong with regard to inbreeding?

- A) Inbreeding increases the number of recessive alleles in a population
- B) Inbreeding increases number of homozygous pairs of genes in a population
- C) Inbreeding increases the phenotypic uniformity among animals
- D) Inbreeding results in decline in traits closely related to fertility, viability, growth rate etc.

39. Mating of unrelated animals within a breed is known as

- A) Cross breeding
- B) Outbreeding
- C) Inbreeding
- D) Linebreeding

40. Which of the following is not a platform test?

- A) Clot-on-boiling test
- B) pH
- C) Specific gravity
- D) Methylene blue dye reduction test

41. Curled toe paralysis is caused due to deficiency of
- A) Vitamin A
 - B) Vitamin B12
 - C) Vitamin B2
 - D) Vitamin C
42. Which is an important legume grown in India valued for its rapid growth in the cooler winter season in the subtropics and for its good recovery after cutting or grazing with nutritive value similar to that of Lucerne?
- A) Alfalfa
 - B) Leucaena or Ipil-ipil
 - C) *Berseem* or Egyptian clover
 - D) Acacia
43. F1 hybrid obtained by crossing stallion with female ass is known as
- A) Mule
 - B) Hinny or Jennet
 - C) Freemartin
 - D) Pony
44. Which of the following bacteria is responsible for red colouration in milk?
- A) *Serratia marcescens*
 - B) *Pseudomonas. Fragi*
 - C) *Brucella abortus*
 - D) *Pseudomonas. synxantha*
45. The digestible crude protein (DCP) and total digestible nutrient (TDN) in balance concentrate ration for cattle must be
- A) 15% DCP & 70 % TDN
 - B) 25% DCP & 50 % TDN
 - C) 30% DCP & 60 % TDN
 - D) 40% DCP & 50 % TDN
46. A feed conversion ratio (FCR) ofis attained by Indian commercial broiler producers.
- A) 1.2-1.3
 - B) 1.65-1.8
 - C) 2.1-2.2
 - D) 3.0-3.2
47. 'Pulpy kidney disease' is caused by
- A) *Clostridium perfringens*
 - B) *Clostridium septicum*
 - C) *Clostridium novyi*
 - D) *Clostridium tetani*

48. Antibiotic growth promoters is used mainly in feeds of(species) typically at levels of 20–40 mg/kg, which give improvements of 4–16 per cent in growth rate and 2–7 per cent in efficiency of feed conversion
- A) Pigs and poultry
 - B) Cattle and buffalo
 - C) Sheep and goat
 - D) a, b and c
49. The per cent gross energy of the food that is lost as methane at maintenance level of nutrition is
- A) approximately 7–9
 - B) approximately 1–1.5
 - C) approximately 15–20
 - D) approximately 25
50. Brooder's pneumonia in poultry is caused by
- A) *Aspergillus fumigatus*
 - B) *Candida albicans*
 - C) *Pasturella multocida*
 - D) *Haemophilus paragallinarum*

Section B

Write short notes on Any TEN of the following.

[10 x 10 = 100]

1. Principles and procedure of fluid therapy.
2. Define balanced ration. What are its characteristics? Give general principles of computation of ration for layer birds.
3. Clinical signs, diagnosis, prevention and control of canine distemper.
4. How Foot and Mouth Disease outbreak can potentially affect the economic viability of a dairy farm?
5. Differential diagnosis and line of treatment of following conditions.
 - A) Ruminal impaction
 - B) Traumatic reticulitis
 - C) Abomasal displacement
 - D) Omasal impaction
6. Differential diagnosis, treatment and management of common clinical cases of poisoning in cattle.
7. Organic milk and meat production.
8. Special management practices recommended for pregnant and lactating cows.

9. Write briefly about the following.
 - A) Clean milk production and its significance.
 - B) Humane slaughter of food animals and its advantages
10. Compare and contrast the following
 - A) Heterosis x Inbreeding depression
 - B) Inbreeding x Out breeding
11. Define the following and briefly discuss their significance
 - A) Protein efficiency ratio
 - B) Biological value
 - C) Calorie-protein ratio
 - D) Feed conversion ratio
12. Discuss briefly on scarcity of feeds and fodder in India and ways by which the problem can be mitigated.
13. What is HACCP? Discuss the principles of HACCP?
14. Discuss the concepts of different components of variance and their importance in animal breeding.

Section C

Answer in detail Any FOUR of the following.

[25 x 4 = 100]

15. Discuss in detail the challenges involved in diagnosis, prevention and control of tuberculosis in domestic animals.
16. Classify fractures. Discuss the general principles of fracture treatment. What complications you can expect during healing of fracture? And how can they be managed?
17. Discuss in detail legal duties of veterinarians. Briefly describe code of conduct and ethics for veterinarians. How dereliction of duties by veterinarian will be taken care of by the law?
18. Discuss your thoughts on future prospect of animal welfare emerging as major issue of global trade in livestock products. Discuss in detail the measures to take care of animal welfare during transportation and during commercial livestock farming practices in terms of basic animal freedoms and housing.
19. Define zoonosis. Classify zoonoses. Discuss separately in detail about the important milk and meat borne zoonoses.
20. Discuss in detail important methods of preservation of meat and egg.