

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

23-0009-AD

TEST BOOKLET
ANIMAL HUSBANDRY AND VETERINARY SCIENCE

Time Allowed: 3 hours

PAPER – II

(Maximum Marks: 300)

INSTRUCTIONS TO CANDIDATES

Read the instructions carefully before answering the questions: -

1. This Test Booklet consists of 12(twelve) pages and has 75 (seventy-five) items (questions).
2. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS BOOKLET *DOES NOT* HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
3. Please note that it is the candidate's responsibility to fill in the Roll Number and other required details carefully and without any omission or discrepancy at the appropriate places in the OMR Answer Sheet and the Separate Answer Booklet. Any omission/discrepancy will render the OMR Answer Sheet and the Separate Answer Booklet liable for rejection.
4. Do not write anything else on the OMR Answer Sheet except the required information. Before you proceed to mark in the OMR Answer Sheet, please ensure that you have filled in the required particulars as per given instructions.
5. Use **only Black Ball Point Pen** to fill the OMR Answer Sheet.
6. This Test Booklet is divided into 4 (four) parts – Part – I, Part – II, Part – III and Part – IV.
7. All three parts are **Compulsory**.
8. **Part-I consists of Multiple Choice-based Questions.** The answers to these questions have to be marked in the OMR Answer Sheet provided to you.
9. **Part-II, Part-III and Part-IV consist of Conventional Essay-type Questions.** The answers to these questions have to be written in the separate Answer Booklet provided to you.
10. In Part-I, each item (question) comprises of 04 (four) responses (answers). You are required to select the response which you want to mark on the OMR 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.
11. After you have completed filling in all your responses on the OMR Answer Sheet and the Answer Booklet(s) and the examination has concluded, you should hand over to the Invigilator **only the OMR Answer Sheet and the Answer Booklet(s)**. You are permitted to take the Test Booklet with you.
12. **Penalty for wrong answers in Multiple Choice-based Questions:**
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 the 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.

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10. The vulva, vestibule and the caudal portion of vagina of cow develop from which of these?
 a. Urogenital sinus
 b. Wolffian ducts
 c. Mullerian ducts
 d. Both b & c
11. Low Temperature Long Time (LTLT) pasteurization of milk is carried out at _____ °C for _____ min.
 a. 72°C, 15
 b. 100 °C, 1
 c. 63°C, 30
 d. 121 °C, 5
12. Alkalinizing the urine would be expected to increase the rate of elimination for -
 a. Weak acid
 b. Weak base
 c. Strong base
 d. Strong acid
13. The inner and outer shell membranes of chicken egg are formed in which part of oviduct?
 a. Infundibulum
 b. Magnum
 c. Isthmus
 d. Uterus
14. Syrinx which is the vocal organ of the fowl is suspended within which part of the air sac?
 a. Cervical
 b. Thoracic
 c. Clavicular
 d. Abdominal
15. Under which section(s) of the IPC is mischief which includes killing, poisoning or maiming an animal considered a punishable offence?
 a. 428
 b. 429
 c. Both a & b
 d. None of the above
16. For how many hours should feeding of food to animals be withheld before slaughtering?
 a. 4-6
 b. 12-18
 c. 24
 d. 48
17. At what age is the primary vaccination of a kid or lamb against Peste Des Petits Ruminant (PPR) using live attenuated PPRv vaccine given?
 a. One months and above
 b. Two months and above
 c. Three months and above
 d. Six months and above
18. An antimicrobial agent that inhibits cell wall synthesis in bacteria by interfering with the regeneration of lipid carriers by blocking its dephosphorylation is
 a. Vancomycin
 b. Bacitracin
 c. Penicillin
 d. Daptomycin
19. Which type of zoonoses is yellow fever disease is an example of?
 a. Direct zoonoses
 b. Cyclo zoonoses
 c. Meta zoonoses
 d. Sapro zoonoses
20. During khoa preparation, heating is stopped when the product in the pan begins to leave sides and sticks together forming homogenous mass known as _____
 a. Khoa-chat
 b. Khoa-nat
 c. Khoa-pat
 d. None of the above

21. Which is the largest part of the broad ligament that supports the uterine horns and/or the uterine body?
- | | |
|-----------------|----------------|
| a. Meso-ovarium | b. Mesosalpinx |
| c. Cruciate | d. Mesometrium |
22. The secretory unit of salivary glands is called
- | | |
|----------|-----------|
| a. Molar | b. Acinus |
| c. Yugal | d. Mucous |
23. Which virus causes the blue tongue disease in sheep and goats?
- | | |
|----------|-------------|
| a. Orbi | b. Morbilli |
| c. Retro | d. Parapox |
24. Burton's line in the gum margins is a clinical sign found in chronic _____ poisoning.
- | | |
|------------|------------|
| a. Mercury | b. Arsenic |
| c. Copper | d. Lead |
25. Meroblastic cleavage occurs in which of the following?
- | | |
|-----------|------------|
| a. Cattle | b. Sheep |
| c. Pig | d. Poultry |
26. What does oxidation of the hematoxylin produce which is the actual dye used in an H&E stain?
- | | |
|----------------------|------------------|
| a. Oxyhaematein | b. Haematein |
| c. Hydrogen peroxide | d. Sodium iodate |
27. In large animals, the most common site(s) for epidural administration of anaesthetic agents is/are -
- | | |
|------------|---------------|
| a. S5-Co1 | b. Co1-Co2 |
| c. Co2-Co3 | d. Both a & b |
28. The cornual nerve is a branch of the ophthalmic division of the _____ cranial nerve.
- | | |
|---------------|-----------|
| a. Trochlear | b. Facial |
| c. Trigeminal | d. Optic |
29. To what size does the homogenizer break down the fat globules of milk?
- | | |
|--------------------|--------------------|
| a. 1 μ or less | b. 2 μ or less |
| c. 3 μ or less | d. 4 μ or less |
30. Which tissues were the first to evolve during evolution and were first formed during embryonic development?
- | | |
|---------------|---------------|
| a. Epithelial | b. Connective |
| c. Muscle | d. Nervous |
31. Which of the following is/are diseases common to rabbits?
- | | |
|----------------|---------------------|
| a. Coccidiosis | b. Wryneck |
| c. Shorehock | d. All of the above |

32. In which disease "Turkey-egg" appearance of kidneys of pig is seen?
- | | |
|---------------------|--------------------|
| a. Swine Erysipelas | b. Swine Influenza |
| c. FMD | d. Hog Cholera |
33. What is the shape of the ovary of sow?
- | | |
|-----------|-------------|
| a. Almond | b. Mulberry |
| c. Bean | d. Round |
34. Activation of phospholipase C hydrolyses the membrane phospholipid generating second messengers, namely
- | |
|---|
| a. Inositol triphosphate (IP ₃) and cyclic adenosine monophosphate (cAMP) |
| b. IP ₃ and diacylglycerol (DAG) |
| c. cAMP and DAG |
| d. Ca ²⁺ |
35. Grass tetany or grass staggers of cattle is due to deficiency of -
- | | |
|--------------|--------------|
| a. Calcium | b. Manganese |
| c. Magnesium | d. Cobalt |
36. Scalding of pigs is done at the temperature of _____ °C for 5-6 minutes.
- | | |
|----------|----------|
| a. 35-38 | b. 40-42 |
| c. 50-52 | d. 60-62 |
37. Intercornual ligaments is absent in which of the following?
- | | |
|--------|----------|
| a. Cow | b. Mare |
| c. Sow | d. Bitch |
38. Yoghurt starter culture consists of a blend of which of the following?
- | |
|--|
| a. <i>Streptococcus thermophilus</i> , <i>Lactobacillus bulgaricus</i> |
| b. <i>Streptococcus lactis</i> , <i>Lactobacillus bulgaricus</i> |
| c. <i>Streptococcus diacetilactis</i> , <i>Leuconostoc citrovorum</i> |
| d. <i>Streptococcus cremoris</i> , <i>Leuconostoc citrovorum</i> |
39. During the post-mortem changes, energy metabolism is shifted to anaerobic pathway resulting in the breakdown of glycogen to which of the given acids?
- | | |
|----------------|----------------------|
| a. Acetic acid | b. Hydrochloric acid |
| c. Lactic acid | d. Sulphuric acid |
40. The contribution of heat stress to lameness of dairy cattle is due to ruminal acidosis or increased output of which of the following?
- | | |
|---------------------|--------------------|
| a. Bicarbonate | b. Carbon dioxide |
| c. Sodium carbonate | d. Sodium chloride |
41. Inverted L nerve block in cattle is used to provide analgesia for performing -
- | | |
|---------------|--------------|
| a. Laparotomy | b. Dehorning |
| c. Castration | d. Docking |

42. The mesoderm gives rise to the _____ and connective tissue in the body.
- | | |
|-------------------|-----------------|
| a. Nervous system | b. Muscle cells |
| c. Columnar cells | d. Epidermis |
43. Among the domestic animals, ectopia cordis is mostly reported in
- | | |
|----------|-----------|
| a. Pig | b. Goat |
| c. Sheep | d. Cattle |
44. Which test is used to determine the age of bruise on carcass?
- | | |
|--------------|---------------|
| a. Methylene | b. Bromide |
| c. Bilirubin | d. Tuberculin |
45. Who introduced the paraffin-embedding methodology in 1869?
- | | |
|-----------------|----------------------|
| a. Edwin Klebs | b. Julius Arnold |
| c. Emile Achard | d. Alexander Breslow |
46. What is the pocket formed by the utero-ovarian ligament and mesovarium called?
- | | |
|--------------------|------------------|
| a. Ovulation fossa | b. Ovarian bursa |
| c. Hillus | d. Corpora Lutea |
47. Lidocaine acts by blocking signal conduction by altering the fast voltage-gated _____ channels at the neuronal cell membrane.
- | | |
|--------------|-------------|
| a. Potassium | b. Chloride |
| c. Sodium | d. Calcium |
48. Haemorrhage in the junction of proventriculus and gizzard of poultry is observed in which of these diseases?
- | | |
|------------------------------|--------------------------|
| a. Ranikhet | b. Infectious Bronchitis |
| c. Infectious Bursal Disease | d. Fowl pox |
49. Which of the following stores nitrogenous wastes produced by the embryo and also facilitates respiration in combination with the chorion?
- | | |
|--------------|---------------|
| a. Amnion | b. Yolk sac |
| c. Allantois | d. Both a & c |
50. Xylazine hydrochloride is a thiazine derivative that acts by activation of central presynaptic _____ receptors producing sedation, muscle relaxation and analgesia.
- | | |
|---------------|---------------|
| a. α_1 | b. α_2 |
| c. α_3 | d. α_4 |

PART - II
(Short Answer-type Questions)

Instructions for Questions 51 to 63:

- *Write the answers in short for any 10 (TEN) out of the thirteen questions.*
- *Each question carries 5 marks. [5x10=50]*

51. Write a note on the testing, grading, legal standards, quality control of the nutritive properties of milk products.
52. Discuss the role of Artificial Intelligence (AI) in antimicrobial discovery and development.
53. What is the role of essential trace minerals in embryonic and foetal development in livestock?
54. Write about immuno-castration and its application in animals.
55. Analyse the structure and significance of air sacs of poultry.
56. Discuss 'One Health' approach for control of animal diseases.
57. Explain the dressing technique of pig.
58. Describe HTST method of pasteurization of milk.
59. What are the complications of antimicrobial therapy? Explain.
60. Explain the applications of forensic veterinary anatomy in vetero-legal cases.
61. What are the methods of stunning of meat animals?
62. Classify zoonoses with an example of each class.
63. What are the effects of polluted water on the health of animals?

PART - III
(Long Answer-type Questions)

Instructions for Questions 64 to 71:

- *Answer any 5 (FIVE) out of the eight questions.*
- *Each question carries 10 marks.*

[10x5=50]

64. Explain the procedure of post-mortem examination in vetero-legal cases.
65. What do you think are the challenges in creating disease-free zones in Indian condition? Suggest measures to address those challenges.
66. Classify diuretics giving suitable examples of each class. Discuss the pharmacology of loop diuretics.
67. Write in detail about the materials required and the procedure for paraffin embedding technique of tissue sample.
68. Explain in detail the different methods of preservation of meat.
69. Write the application of recombinant DNA technology in diagnosis of animal and poultry diseases.
70. Describe the different aspects of socio-economic impact of zoonotic diseases on human health.
71. What are the impacts of climate change on livestock production? Suggest measures to reduce it.

PART - IV
(Essay-type Questions)

Instructions for Questions 72 to 75:

- *Answer any 2 (TWO) out of the four questions.*
- *Each question carries 25 marks.*

[25x2= 50]

72. Explain about the pre-slaughter care, handling and transportation of meat animals. Discuss about the ante-mortem and post-mortem inspections of meat animals. What are the physicochemical changes that take place in the meat post slaughter?
73. Describe the role of birds and wild animals in transmission and maintenance of zoonotic diseases.
74. Write in detail about the cause, transmission, epidemiology, pathogenesis, clinical signs, post mortem finding, diagnosis, treatment and control of African Swine Fever.
75. Discuss the different types of pre-anaesthetic drugs used in animals. Classify the anaesthetic agents. What are the different stages of anaesthesia and the side effects of anaesthetic drugs?
