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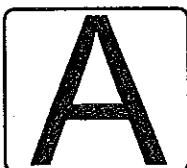
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OPSC
Previous Year Paper
Veterinary Assistant
Surgeon 2019 Paper-I



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

Test Booklet Series



TEST BOOKLET

T. B. C. : VS - 1 - 2018/19

SPECIAL RECRUITMENT TO
VETERINARY ASSISTANT SURGEON
PAPER - I
(VETERINARY SCIENCE)

SI. No. .

1009

Time Allowed : 2 $\frac{1}{2}$ Hours

Maximum Marks : 400

: INSTRUCTIONS TO CANDIDATES :

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 OF THE SAME SERIES ISSUED TO YOU.
2. ENCODE CLEARLY THE TEST BOOKLET SERIES A, B, C OR D, AS THE CASE MAY BE, IN THE APPROPRIATE PLACE IN THE ANSWER SHEET USING BALL POINT PEN (BLUE OR BLACK).
3. You have to enter your **Roll No.** on the Test Booklet in the Box provided alongside. **DO NOT** write anything else on the Test Booklet.
4. YOU ARE REQUIRED TO FILL UP & DARKEN ROLL NO., TEST BOOKLET / QUESTION BOOKLET SERIES IN THE ANSWER SHEET AS WELL AS FILL UP TEST BOOKLET / QUESTION BOOKLET SERIES AND SERIAL NO. AND ANSWER SHEET SERIAL NO. IN THE ATTENDANCE SHEET CAREFULLY. WRONGLY FILLED UP ANSWER SHEETS ARE LIABLE FOR REJECTION AT THE RISK OF THE CANDIDATE.
5. This Test Booklet contains 200 items (questions). Each item (question) comprises four responses (answers). You have to select the correct response (answer) which you want to mark (darken) on the Answer Sheet. In case, you feel that there is more than one correct response (answer), you should mark (darken) the response (answer) which you consider the best. In any case, choose **ONLY ONE** response (answer) for each item (question).
6. You have to mark (darken) all your responses (answers) **ONLY** on the **separate Answer Sheet** provided by using **BALL POINT PEN (BLUE OR BLACK)**. See instructions in the Answer Sheet.
7. All items (questions) carry equal marks. All items (questions) are compulsory. Your total marks will depend only on the number of correct responses (answers) marked by you in the Answer Sheet.
8. Before you proceed to mark (darken) in the Answer Sheet the responses to various items (questions) in the Test Booklet, you have to fill in some particulars in the Answer Sheet as per the instructions sent to you with your **Admission Certificate**.
9. After you have completed filling in all your responses (answers) on the Answer Sheet and after conclusion of the examination, you should hand over to the Invigilator the **Answer Sheet** issued to you. You are allowed to take with you the candidate's copy / second page of the Answer Sheet along with the **Test Booklet**, after completion of the examination, for your reference.
10. Sheets for rough work are appended in the Test Booklet at the end.

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

1. Haemorrhagic Septicaemia (HS) is a bacterial disease of animals which mainly affects :
(A) Haemopoietic system
(B) Digestive system
(C) Respiratory system
(D) Nervous system

2. Post parturient haemoglobinurea is a common disease in :
(A) Dogs
(B) Buffaloes
(C) Horses
(D) Pigs

3. Intestinal obstruction caused by Ascarid worms in buffalo calves leads to :
(A) Toxaemia
(B) Constipation
(C) Diarrhoea
(D) Excessive salivation

4. Vitamin B1 deficiency in small ruminants causes :
(A) Beri-Beri
(B) Digestive disorders
(C) Peripheral paralysis
(D) Polio-encephalomalacia

5. Milk fever can be grouped as a disease of :
(A) Deficiency disease

(B) Infectious disease
(C) Metabolic disease
(D) Toxicological condition

6. Mange is a very common condition in dogs caused by :
(A) Ticks
(B) Lice
(C) Mites
(D) Fungus

7. Leptospirosis causes abortion in animals and organism can be seen in :
(A) Saliva of affected animal
(B) Sputum of affected animal
(C) Faeces of affected animal
(D) Urine of affected animal

8. Black tarry colored blood which does not clot oozes out of all natural orifices of animal affected with :
(A) Anthrax
(B) Brucellosis
(C) Babesiosis
(D) Postparturient haemoglobinurea

9. Johne's disease affects digestive tract of ruminants which are :
(A) Weak and emaciated
(B) Very young
(C) Old aged
(D) Neonates

10. Enterotoxaemia is caused by bacteria named :
(A) Clostridium perfringens
(B) Clostridium botulinum
(C) Enterobacter toxaem
(D) Enterobacter perfringens

11. The drug of choice for treating Black Quarter is :
(A) Tetracycline
(B) Sulfonamides
(C) Latest antibiotics
(D) Penicillin

12. Brucellosis is an emerging zoonotic disease which is best controlled by :
(A) Early diagnosis and treatment
(B) Test and slaughter
(C) Calf hood vaccination
(D) Hygienic measures

13. Mastitis is the most important, economically, disease of lactating animals and should be controlled :
(A) By reducing duration of infection
(B) By reducing new infection rate
(C) By adopting hygienic measure
(D) By adopting all of the above strategies

14. Tetanus or lock jaw is highly fatal disease of all domestic animals but the most susceptible animals are :
(A) Bovines

(B) Equines
(C) Caprines
(D) Swines

15. Multivalent vaccine in dogs contains vaccine against :
(A) Canine distemper
(B) ICH
(C) Canine parvo virus infection
(D) All of the above

16. Vaccination against FMD should be undertaken :
(A) Once every year
(B) Twice every year
(C) Thrice every year
(D) Fourth time every year

17. Ringworm infection is caused by invasion of keratinized epithelial cells by :
(A) Ectoparasites
(B) Fungus
(C) Ticks
(D) Round worm

18. Coenuriasis in sheep causes :
(A) Sheep Gid
(B) Nervous ataxia
(C) Hydatid disease
(D) Alveolar hydatid disease

19. Bovine Ephemeral Fever is commonly observed during monsoon season in animals and is also known as :
(A) Ephemerosis
(B) Ephemeritis
(C) Bovine ephemeritis
(D) Three Day Sickness

20. While handling a dog exhibiting nervous signs and excessive salivation, a Veterinarian should take precautionary measures against :
(A) Rabies
(B) Pseudo-rabies
(C) Meningitis
(D) Neuritis

21. Most common neoplasms in farm animals are :
(A) Connective tissue
(B) Skin tumors
(C) Soft tissue tumors
(D) None of the above

22. Regeneration or repair depends on :
(A) Type of tissue
(B) Extent of defect
(C) Duration of trauma
(D) All of the above

23. Squamous cell carcinoma is very rare in :
(A) Dogs
(B) Pigs

24. Homeostasis in circulatory failure is maintained by :
(A) Autoregulation
(B) Sympathoadrenal drainage
(C) Transmural capillary effects
(D) All of the above

25. In shock, level of ATP can be increased by using :
(A) Thromboxane
(B) Leucotriens
(C) Prostacyclin
(D) All of the above

26. In contusions :
(A) Injury is superficial
(B) No gap is there in continuity of tissue surface
(C) Anaerobic infection is common
(D) None of the above

27. Traumatic emphysema :
(A) Is a common complication of punctured
(B) May involve respiratory tract
(C) May involve GIT
(D) All of the above

28. Anuria even after I/V fluid therapy can be due to :
(A) Kidney failure
(B) Paralysis of urinary bladder
(C) Tetany due to alkalosis
(D) All of the above

29. Biogenic stimulator which is most effective in healing is :
(A) Skin graft
(B) Cartilage powder
(C) Tissue extract
(D) Amnion

30. Hydrogen peroxide (1 – 2%) is more effective as :
(A) Sporicide
(B) Bactericide
(C) Bacterostatic
(D) None of the above

31. Half life of Ce – 137 is :
(A) 5 days
(B) 30 days
(C) 30 years
(D) 5 years

32. Fibrosarcoma is a type of tumor which has :
(A) $TR = 1$

(B) $TR = -1$
(C) Both of the above
(D) None of the above

33. Radioisotopes used for intracavitary therapy are :
(A) Co – 60 and Ce – 137
(B) Sr – 90 and I – 131
(C) P – 32 and I – 132
(D) Sr – 90 and Au – 198

34. Liver though has enormous regeneration power, but exposure to radiation causes :
(A) Increases fibrosis and vascular injury but decreased hepatocytes and lobe weight
(B) Decreased fibrosis and hepatocytes but increases vascular injury and lobe wt.
(C) Increased vascular injury and hepatocytes but decreased fibrosis and lobe wt.
(D) All of the above

35. For bronchography dianosil is used @ :
(A) 0.5 to 1.0 ml per kg BW
(B) 2.0 to 3.0 ml per kg BW
(C) 3.0 to 4.0 ml per kg BW
(D) 4.0 to 5.0 ml per kg BW

36. Sodium and Meglumine diatrizoate is used in goats for IVP at the dose rate of :
(A) 2.0 to 3.0 ml per kg b. wt.
(B) 3.0 to 4.0 ml per kg b. wt.
(C) 0.5 to 1.0 ml per kg b. wt.
(D) 4.0 to 5.0 ml per kg b. wt.

37. Low ionic contrast medium metrizamide was discovered by :
(A) Hallis Potter
(B) Roentgen
(C) Nyegaard
(D) Carlson

38. Viruses with icosahedral symmetry have how many corners ?
(A) 20
(B) 30
(C) 12
(D) Nil

39. Viruses are infectious agents that have :
(A) DNA and RNA and proteins
(B) DNA and RNA or proteins
(C) DNA or RNA and proteins
(D) DNA or RNA or proteins

40. Morphology of *Rotavirus* is :
(A) Brick shaped
(B) Bullet shaped
(C) Star shaped
(D) Wheel shaped

41. Viruses with icosahedra symmetry have how many faces ?
(A) 20

(B) 30
(C) 12
(D) Nil

42. Morphological units of capsid is called :
(A) Capsomere
(B) Primer
(C) Peplomer
(D) All of the above

43. Genome of polio virus is :
(A) dsDNA
(B) Positive sense ssRNA
(C) Segmented dsRNA
(D) None of the above

44. Naked viruses lack :
(A) Envelope
(B) Capsid
(C) Genome
(D) None of the above

45. Re-assortment occurs in :
(A) Polio virus
(B) Rabies virus
(C) Rota virus
(D) None of the above

46. Genome of rabies virus is :
(A) dsDNA
(B) Positive sense ssRNA
(C) Segmented dsRNA
(D) None of the above

47. Prions' contain one of the following as their genome :
(A) ssRNA
(B) dsRNA
(C) dsDNA
(D) None of the above

48. Hepatic lobule is :
(A) Structural unit
(B) Functional unit
(C) Secretory unit
(D) None of the above

49. Epitheliochorial placenta is seen in :
(A) Cow
(B) Mare
(C) Man
(D) Rat

50. Bulbus cordis is absorbed in :
(A) Right atrium
(B) Left atrium
(C) Ventricle
(D) Truncus arteriosus

51. Purkinje cells are found in :
(A) Cerebellum
(B) Cerebrum
(C) Parotid salivary gland
(D) Heart

52. RBCs are nucleated in :
(A) Ox
(B) Horse

53. Beta (β) cells secrete :
(A) Insulin
(B) Glucagon
(C) Both (A) and (B)
(D) None of the above

54. Double caeca are present in :
(A) Cow
(B) Mare
(C) Hen
(D) Sow

55. Diverticulum ventriculi is seen in :
(A) Ox
(B) Horse
(C) Pig
(D) Dog

56. Round ligament of urinary bladder is :
(A) Vestigeal of umbilical vein
(B) Vestigeal of umbilical artery
(C) Coronary ligament
(D) None of the above

57. Trigonum vesicae is present in :
(A) Urinary bladder
(B) Uterus
(C) Gall bladder
(D) Seminal vesicle

58. Horns of uterus appear like small intestine in :

- (A) Bitch
- (B) Mare
- (C) Sow
- (D) Hen

59. Os-rostrale is present in :

- (A) Bitch
- (B) Mare
- (C) Sow
- (D) Cow

60. Lamina muscularis mucosae is incomplete in :

- (A) Oesophagus
- (B) Reticulum
- (C) Omasum
- (D) Abomasum

61. Brunner's glands are present in :

- (A) Duodenum
- (B) Ileum
- (C) Jejunum
- (D) Rectum

62. Hassal's corpuscle is seen in :

- (A) Bone marrow
- (B) Spleen
- (C) Thymus
- (D) Lymph node

63. The cart wheel appearance of nucleus is seen in :

- (A) Lymphocyte
- (B) Mast cell
- (C) Myocyte
- (D) Plasma cell

64. The germ layer to be formed first in the embryo :

- (A) Ectoderm
- (B) Mesoderm
- (C) Endoderm
- (D) Neural crest cells

65. Trophoblasts give rise for formation of :

- (A) Yolk sac
- (B) Amnion
- (C) Primitive streak
- (D) Placenta

66. Crypts of Lieberkuhn are present in :

- (A) Small intestine
- (B) Stomach
- (C) Liver
- (D) Pancreas

67. Deltoid tuberosity is present in :

- (A) Scapula
- (B) Humerus
- (C) Radius ulna
- (D) Metacarpal

68. Greater trochanter is seen in :
(A) Femur
(B) Tibia
(C) Metatarsus
(D) Sacrum

69. Clavicle is well developed in :
(A) Cow
(B) Mare
(C) Sow
(D) Hen

70. Conus medullaris is seen in :
(A) Cerebellum
(B) Spinal cord
(C) Adrenal
(D) Cerebrum

71. Tapetum lucidum is present in :
(A) Cornea
(B) Choroid
(C) Retina
(D) Lens

72. Longest nerve in the body is :
(A) Sciatic
(B) Trochlear
(C) Median
(D) Vagus

73. Smallest muscle in the body is :
(A) Soleus
(B) Stapedius
(C) Ciliary
(D) Anconeus

74. The following organism has been internationally accepted as the most suitable bacterial indicators for detecting recent sewage pollution of water :
(A) Enterococcus faecalis
(B) Clostridium perfringens
(C) Escherichia coli
(D) All of the above

75. Water-borne diseases in human beings include :
(A) Typhoid
(B) Cholera
(C) Hepatitis
(D) All of the above

76. Viral diseases which can spread through air among human beings include :
(A) Influenza
(B) Q-fever
(C) Hepatitis
(D) All of the above

77. Lagoons are :
(A) Water filters
(B) Shallows ponds
(C) Anaerobic ponds
(D) Septic tanks

78. Infections which spread through excreta include :
(A) Salmonella
(B) Mycobacterium paratuberculosis
(C) Enteroviruses
(D) All of the above

79. Sewage with BOD 500 mg/l is categorized as :
(A) Weak
(B) Medium
(C) Strong
(D) Very strong

80. Sludge production in oxidation ditches in comparison to aerated lagoons is :
(A) Less
(B) More
(C) Equal
(D) Sometimes less, sometimes more

81. Formation of zoogaeal layer play a very significant role in the working of :
(A) Trickling filter
(B) Slow sand filter
(C) Both (A) and (B)
(D) None of the above

82. Rodent control will be useful in prevention of :
(A) Leptospirosis
(B) Plague
(C) Salmonellosis
(D) All of the above

83. Disease which can be controlled by preventing dogs from eating raw viscera of sheep :
(A) Trichinosis

(B) Hydatid disease
(C) Toxoplasmosis
(D) All of the above

84. In which of the following zoonotic diseases birds play a role in transmission to man ?
(A) Salmonellosis
(B) Campylobacteriosis
(C) Influenza
(D) All of the above

85. Echinococcosis is an example of :
(A) Obligatory cyclozoönosis
(B) Anthropozoonoses
(C) Metazoonoses
(D) None of the above

86. Zoonoses forming natural foci in India are :
(A) Plague
(B) KFD
(C) Rabies
(D) All of the above

87. Taeniasis is an example of :
(A) Metazoonosis
(B) Obligatory cyclozoönosis
(C) Non-obligatory cyclozoönosis
(D) None of the above

88. Domociliated animal may be exemplified by :

- (A) Rats
- (B) Cows
- (C) Horse
- (D) Deer

89. Tuberculosis in man affects :

- (A) Bones
- (B) Joints
- (C) Respiratory system
- (D) All of the above

90. The moisture content of hard cheese in generally :

- (A) 35-40%
- (B) 40-45%
- (C) 70-80%
- (D) None of the above

91. Late blowing of cheese is due to :

- (A) Coliforms
- (B) *Bacillus subtilis*
- (C) *Clostridium butyricum*
- (D) *Staphylococcus aureus*

92. The milk having an acidity of 0.72% will :

- (A) Curdle on boiling
- (B) Coagulate spontaneously
- (C) Coagulate followed by liquefaction
- (D) Remain normal

93. In holder method of pasteurization, milk is exposed to :

- (A) 100°C for 10 min
- (B) 80°C for 20 min
- (C) 62.8°C for 30 min
- (D) 55°C for 30 min

94. Difficulties are experienced in curdling and ripening of cheese if milk contains :

- (A) Antibiotic residue
- (B) Pesticide residue
- (C) Insecticide residue
- (D) All of the above

95. Consumption of even boiled milk may cause :

- (A) Tuberculosis
- (B) Brucellosis
- (C) Q-fever
- (D) Staphylococcal gastroenteritis

96. According to BIS, the SPC in 'burfi' should not exceed :

- (A) 250/g
- (B) 3×10^4
- (C) 2×10^6
- (D) 4×10^7

97. Bitter taint and thinning of cream is caused by :

- (A) *B. stearothermophilus*
- (B) *B. subtilis*
- (C) Coliforms
- (D) *Lactococci*

98. Shipping fever is a catarrhal and often fatal disease that occurs mainly due to long journey in :
(A) Rainy season
(B) Winter season
(C) Summer season
(D) Autumn

99. Canpak system of line dressing can process the number of cattle/hour :
(A) 50-75
(B) 50-150
(C) 100-200
(D) 100-250

100. The factors which influence the rate of rigor mortis in the carcass include :
(A) Atmospheric temperature
(B) Amount of glycogen
(C) Health of animal
(D) All of the above

101. Stunning by captive bolt pistol is considered to be the most effective in :
(A) Cattle
(B) Bull
(C) Sow
(D) Boar

102. In cattle during transport, the shrink rate is maximum in a period of :
(A) 0-12 h

(B) 12-24 h
(C) 24-36 h
(D) 36-72 h

103. Prior stunning is always forbidden in the following method of slaughter of animals :
(A) Halal
(B) Jhatka
(C) Jewish
(D) All of the above

104. On slaughter of hunted animals, the onset of rigor mortis is usually :
(A) Very slow
(B) Very rapid
(C) Absent
(D) Not affected

105. A sheep carcass found affected with blue tongue virus should be :
(A) Passed for consumption
(B) Passed after removing tongue
(C) Condemned
(D) Heat processed

106. Presence of snake like calcified worms in egg albumin may be seen in infection of :
(A) Syngamus trachea
(B) Heterakis gallinarum
(C) Ascaridia galli
(D) None of the above

107. Inverse age resistance is seen in :

- (A) *Trypanosoma evansi*
- (B) *Babesia bigemina*
- (C) *Plasmodium vivax*
- (D) All of the above

108. A buffalo-calf passes mud-coloured, evil-smelling faeces indicating infection of :

- (A) *Toxocara vitulorum*
- (B) *Moniezia expansa*
- (C) *Strongyloides papillosus*
- (D) *Avitellina centripunctata*

109. A transport host in which no development of the parasite occurs is known as :

- (A) Intermediate host
- (B) Paratenic host
- (C) Definitive host
- (D) None of these

110. Tick paralysis is associated with :

- (A) *Ixodes* spp
- (B) *Argas persicus*
- (C) *Ornithodoros lahorensis*
- (D) All of these

111. A parasite having narrow host range is known as :

- (A) Euryxenous parasite
- (B) Stenoxenous parasite
- (C) Heteroxenous parasite
- (D) None of the above

112. *Dirofilaria immitis* is transmitted by :

- (A) Lice
- (B) Fleas
- (C) Mosquitoes
- (D) All of the above

113. Cypermethrin belongs to the following group of insecticides :

- (A) Chlorinated hydrocarbon
- (B) Organophosphate
- (C) Carbamate
- (D) Synthetic pyrethroid

114. The follicular mite affecting cattle is :

- (A) *Demodex* spp.
- (B) *Chorioptes* spp.
- (C) *Sarcoptes* spp.
- (D) *Psoroptes* spp.

115. East Coast Fever is caused by :

- (A) *Theileria mutans*
- (B) *Theileria annulata*
- (C) *Theileria sergenti*
- (D) *Theileria parva*

116. The most pathogenic and prevalent nematode of sheep in India is :

- (A) *Trichostrongylus*
- (B) *Ostertagia*
- (C) *Haemonchus*
- (D) None of the above

117. Following amphistome occurs in the bile duct of ruminants :

- (A) *Gastrodiscus aegyptiacus*
- (B) *Gigantocotyle explanatum*
- (C) *Gastrothylax crumenifer*
- (D) *Pseudodiscus collinsi*

118. Which of the following is not a soft tick ?

- (A) *Hyalomma anatolicum*
- (B) *Argas persicus*
- (C) *Ornithodoros moubata*
- (D) *Otobius megnini*

119. Neurocysticercosis in human-beings is caused by :

- (A) *Cysticercus ovis*
- (B) *Cysticercus bovis*
- (C) *Cysticercus tenuicollis*
- (D) *Cysticercus cellulosae*

120. An association between two organisms where one is benefited, while other is neither benefited nor harmed, is :

- (A) Mutualism
- (B) Parasitism
- (C) Commensalism
- (D) None of the above

121. One of the most pathogenic coccidian parasites of cattle is :

- (A) *Eimeria cylindrica*

122. 'Surra' in cattle and buffaloes is caused by :

- (A) *Trypanosoma cruzi*
- (B) *Trypanosoma gambiense*
- (C) *Trypanosoma equiperdum*
- (D) *Trypanosoma evansi*

123. Blood fluke is the common name given to the following group of parasites :

- (A) Ancylostomes
- (B) Paramphistomes
- (C) Schistosomes
- (D) None of the above

124. 'Cooked rice grain' like segments are seen in the faeces of calves infested with :

- (A) *Avitellina spp*
- (B) *Moniezia spp*
- (C) *Stilesia spp*
- (D) All of the above

125. Triclabendazole is the drug of choice in case of :

- (A) Schistosomosis
- (B) Paramphistomosis
- (C) Fasciolosis
- (D) All of the above

126. Transport across the GI mucosal barrier is effective when :

(A) The drug is dissolved in GIT lumen
(B) The drug is stable chemically or enzymatically
(C) The drug is lipid soluble and not completely ionized
(D) All of the above

127. Microsomal oxidative enzyme includes :

(A) Aldehyde dehydrogenase
(B) Xanthine oxidase
(C) Monoamine oxidase
(D) None of the above

128. Various types of G-proteins are after the type of :

(A) α -subunit
(B) β -subunit
(C) γ -subunit
(D) All of the above

129. Preferred route for implantation of pellets and depot preparation is :

(A) Intravenous
(B) Intramuscular
(C) Subcutaneous
(D) All of the above

130. Large molecular size polar compounds are preferentially excreted through :

(A) Renal

(B) Biliary
(C) Pulmonary
(D) All of the above

131. Which of the following species of animals is deficient in glucuronidation ?

(A) Pigs
(B) Horses
(C) Cats
(D) All of the above

132. Microsomal oxidative enzyme includes :

(A) Aldehyde dehydrogenase
(B) Xanthine oxidase
(C) Monoamine oxidase
(D) None of the above

133. Various types of G-proteins are after the type of :

(A) α -subunit
(B) β -subunit
(C) γ -subunit
(D) All of the above

134. The $\text{Na}^+ - 2\text{Cl}^- - \text{K}^+$ symporter is inhibited by one of the following drugs :

(A) Mannitol
(B) Acetazolamide
(C) Piretanide
(D) All of the above

135. Which of the following is a mixed adrenergic antagonist ?
(A) Metoprolol
(B) Phentolamine
(C) Labetalol
(D) All of the above

136. The effects of MAO inhibition can be reversed by one of the following drugs :
(A) Tyramine
(B) Octopamine
(C) Reserpine
(D) All of the above

137. Predominant adrenergic receptors in heart are :
(A) Alpha₁-adrenergic
(B) Alpha₂-adrenergic
(C) Beta₁-adrenergic
(D) All of the above

138. Tocolytic action of ritodrine in mammals is related to the action produced in :
(A) Liver
(B) Uterus
(C) Heart
(D) None of the above

139. Centrally acting alpha₂-adrenergic agonist like clonidine can be used to treat :
(A) Hypotension
(B) Hypertension
(C) Diabetes
(D) All of the above

140. Which of the following is a selective antagonist of M₂-mAChRs ?
(A) Methacholine
(B) Methocramine
(C) Darifenacine
(D) All of the above

141. Which of the following is a selective antagonist of M₃-mAChRs ?
(A) Methacholine
(B) Methocramine
(C) Darifenacine
(D) All of the above

142. Which of the following actions is not produced by sodium bromide when administered orally in dogs ?
(A) Hypnotic action
(B) Anticonvulsant action
(C) Analgesic action
(D) All of the above

143. Chlorpromazine does not block which one of the following type of receptors ?
(A) Dopamine receptors
(B) mAChRs
(C) Beta adrenergic receptors
(D) All of the above

144. Which of the following sedative is preferred in swines to prevent stress ?
(A) Azaperone
(B) Droperidol
(C) Haloperidol
(D) All of the above

145. Phenobarbitone used as antiepileptic for long term duration may lead to the side effect :

- (A) Polyphagia
- (B) Polydipsia
- (C) Polyurea
- (D) All of the above

146. Benzodiazepines are primarily used for the control of :

- (A) Tonic-clonic seizures
- (B) Absence seizures
- (C) Status epilepticus
- (D) All of the above

147. Which of the following is metabolized to produce inactive metabolites ?

- (A) Primidone
- (B) Phenylbutazone
- (C) Chloral hydrate
- (D) None of the above

148. Which of the following is alpha₂-adrenoceptor agonist ?

- (A) Xylazine
- (B) Detomidine
- (C) Medetomidine
- (D) All of the above

149. Sulfonamide induced Kerato-conjunctivitis Sicca occur mostly in :

- (A) Dogs
- (B) Cattle
- (C) Horses
- (D) All of the above

150. Acetylation is the major pathway of sulfonamide metabolism in animals except in :

- (A) Horses
- (B) Cattle
- (C) Dogs
- (D) All of the above

151. Bacterial susceptibility to β-lactam antibiotics depends upon :

- (A) Production of β-lactamases
- (B) Permeability of cell wall
- (C) Sensitivity of penicillin binding protein
- (D) All of the above

152. Which of the following is a fourth-generation cephalosporin ?

- (A) Cefepime
- (B) Cefpirome
- (C) Cefquinome
- (D) All of the above

153. Aminoglycosides are more active in :

- (A) Acidic pH
- (B) Alkaline pH
- (C) Neutral pH
- (D) All of the above

154. Which of the following is not a broad spectrum aminoglycosides ?

- (A) Neomycin
- (B) Streptomycin
- (C) Kanamycin
- (D) All of the above

155. The most nephrotoxic agent among aminoglycosides is :

- (A) Neomycin
- (B) Tobramycin
- (C) Gentamycin
- (D) All of the above

156. One the followings produces aplastic anaemia in human beings :

- (A) Thiamphenicol
- (B) Chloramphenicol
- (C) Florfenicol
- (D) All of the above

157. Which of the following quinolones is eliminated unchanged from body ?

- (A) Ciprofloxacin
- (B) Ofloxacin
- (C) Pefloxacin
- (D) All of the above

158. The prototype quinolone for use in animals is :

- (A) Pefloxacin
- (B) Ciprofloxacin
- (C) Enrofloxacin
- (D) All of the above

159. Vancomycin active against :

- (A) G +ve bacteria
- (B) G -ve bacteria
- (C) G +ve bacteria and G -ve bacteria
- (D) All of the above

160. Amphotericin B causes organ directed toxicity of :

- (A) Liver
- (B) Heart
- (C) Kidneys
- (D) All of the above

161. Which of the following is used against fungal infections ?

- (A) Bactracin
- (B) Itraconazole
- (C) Netobimicin
- (D) All of the above

162. Flucytosine is an :

- (A) Antifungal agent
- (B) Antiviral agent
- (C) Antibacterial agent
- (D) All of the above

163. Which of the following plant is a source of cyanide poisoning ?

- (A) Amaranthus retroflexus
- (B) Astragalus hamosus
- (C) Prunus laurocerasus
- (D) Tribulus sp.

164. The animals fed on vegetation grown near the busy highway may suffer from chronic toxicity due to :

- (A) Thallium
- (B) Lead
- (C) Chlorpyriphos
- (D) Mercury

165. Most of the toxic principles of vegetable origin are :
(A) Lecithins
(B) Pectins
(C) Alkaloids
(D) Glycosides

166. Lead is transported in the body as :
(A) Lead acetate
(B) Lead citrate
(C) Lead phosphate
(D) Lead diphosphate

167. Arsenic, after its ingestion by the animal, is stored permanently in :
(A) Bones
(B) Keratinized tissues
(C) Skin
(D) All of the above

168. Ocharotoxin is produced by :
(A) *Penicillium viridicatum*
(B) *P. citreoviridae*
(C) *P. notatum*
(D) *Fusarium tricinctum*

169. Gangrenous changes occur in poisoning due to :
(A) Mercury
(B) Lead
(C) Malathion
(D) Ergot

170. Common salt poisoning is seen more in poultry than in animals as :
(A) Glomerular filtration area is less in poultry
(B) Chicks have indiscriminate feeding habits
(C) Plasma protein levels is low in poultry
(D) All of the above

171. The characteristic symptom of organic arsenic poisoning in swine is :
(A) Posterior paralysis
(B) Anterior paralysis
(C) CNS excitation
(D) All of the above

172. Blood flow to the bovine ovary is :
(A) Maximum during luteal phase
(B) At nadir just before ovulation
(C) Both (A) and (B)
(D) None of the above

173. The diameter of a mature corpus luteum, when compared with the diameter of a mature graffian follicle in a cow is :
(A) Smaller
(B) Larger
(C) Equal
(D) None of the above

174. In sow, pregnancy is dependent mainly upon progesterone produced from :

- (A) Corpus luteum
- (B) Placenta
- (C) Adrenal gland
- (D) CL and placenta

175. The oviducts atrophy and deciliate during :

- (A) Pregnancy
- (B) Anoestus
- (C) Hypophysectomy
- (D) All of the above

176. Mullerian Inhibiting substance is responsible for suppression of :

- (A) Paramesonephric duct
- (B) Müllerian duct
- (C) Both (A) and (B)
- (D) None of the above

177. Gubernaculum testis is a :

- (A) Retained testis
- (B) Half descended testis
- (C) Inguinal ligament of gonad
- (D) Testicular abnormality

178. In horses, epididymis enters inguinal canal :

- (A) Along with testis
- (B) After testis
- (C) Before testis
- (D) Simultaneously with testis

179. The testicular descend into scrotal occurs during last quarter of fetal life in :

- (A) Bull
- (B) Ram
- (C) Boar
- (D) Stallion

180. During sexual development sperms in Cauda Epididymis of a bull are seen at the age of :

- (A) 16 weeks
- (B) 20 weeks
- (C) 40 weeks
- (D) 60 weeks

181. After puberty the number of Sertoli cells :

- (A) Decrease
- (B) Increase
- (C) Proliferate
- (D) Neither increase nor decrease

182. The difference of scrotal temperature and rectal temperature in boar is :

- (A) More than bull
- (B) Less than bull
- (C) Same as in bull
- (D) None of the above

183. The convoluted duct of epididymis is very large in bull and boar and match the following :

- (A) 22 and 40 meters
- (B) 36 and 54 meters
- (C) 40 and 60 meters
- (D) 54 and 80 meters

184. Gel like portion of boar semen is secreted by :

- (A) Seminal vesicle
- (B) Prostate
- (C) Bulbo-urethral gland
- (D) Ampullae

185. The primordial germ cells arise :

- (A) Intra-gonadally
- (B) Extra-gonadally
- (C) At the time of birth
- (D) At the time of puberty

186. The number of oocytes decrease at :

- (A) The time of birth
- (B) The puberty
- (C) Both (A) and (B)
- (D) None of the above

187. In sows, maternal recognition of pregnancy is mainly due to the action of :

- (A) Oxytocin
- (B) Interferon tau
- (C) Estrogen
- (D) Prostaglandins

188. Most of the developmental anomalies occur during :

- (A) Period of embryo
- (B) Period of ovum
- (C) Period of fetus
- (D) During birth

189. Transformation of secondary spermatocytes to spermatids is known as :

- (A) Spermatocytogenesis

(B) Spermiogenesis

(C) Spermateliosis

(D) Spermiation

190. Attachment of ovum occurs to the which of the following segment of sperm head ?

- (A) Apical
- (B) Post-acrosomal
- (C) Principal
- (D) Equitorial

191. In boars, seminal vesicles produce which of the following osmotic pressure regulator ?

- (A) Ergothioneine
- (B) Citrate
- (C) Inositol
- (D) Fructose

192. Most common type of uterine torsion is :

- (A) Post cervical
- (B) Right side
- (C) Both (A) and (B)
- (D) None of the above

193. For synchronization of oestrus which of the following hormone has disadvantage because of its long half life ?

- (A) Estrogen
- (B) FSH
- (C) PGF_{2α}
- (D) PMSG

194. Biochemical changes in blood of animals suffering from vagus indigestion is :

- (A) Metabolic alkalosis
- (B) Metabolic acidosis
- (C) Hypokalemic hypochloremic alkalosis
- (D) None of the above

195. For the prevention of traumatic reticulo-peritonitis :

- (A) Feed and fodder should be screened for any sharp metallic foreign body
- (B) Animals should not be allowed to graze in the vicinity of factories or along side roads
- (C) Both (A) and (B)
- (D) None of the above

196. For the prevention of primary bloat :

- (A) Mix the wheat straw with green fodder before offering it to animals
- (B) Avoid feeding green fodder
- (C) Both are true
- (D) None of the above

197. Grain engorgement can be diagnosed by :

- (A) Hyper-pyrexia
- (B) Checking the rumen liquor pH
- (C) Both (A) and (B)
- (D) None of the above

198. For prevention of respiratory problems in ruminants :

- (A) Vaccinate properly against HS
- (B) Avoid dusty environment
- (C) Both (A) and (B)
- (D) None of the above

199. The disease causes hemorrhages in skeletal muscle :

- (A) Infectious bursal disease
- (B) Myeloblastosis
- (C) Avian pox
- (D) None of the above

200. Pock lesions on the chorioallantoic membrane (CAM) are seen in :

- (A) Infectious laryngotracheitis
- (B) Marek's disease
- (C) Avian Pox
- (D) All of the above

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SEAL



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SEAL

1. Who is the precursor of acetyl CoA ?
(A) Butyrate
(B) Propionate
(C) Acetate
(D) None of the above
2. Blood sugar level of a cow suffering from ketosis is round about :
(A) 80 mg/dl blood
(B) Less than 40 mg/dl blood
(C) More than 40 mg/dl blood
(D) Above than 80 mg/dl blood
3. Maintenance D. M. total requirement of 400 kg crossed breed cows require :
(A) 5-7 kg
(B) 8-10 kg
(C) 11-13 kg
(D) 13-15 kg
4. T. D. N. term is appropriate with :
(A) Fat
(B) Energy
(C) Protein
(D) None of the above
5. Which trace element is more critical in swine among the element ?
(A) Copper
(B) Manganese
(C) Zinc
(D) None of the above
6. Rice straw contains crude protein about :
(A) 5%
(B) 3%
(C) 0%
(D) None of the above
7. Cotton seed cannot mix in the diet of :
(A) Pig ration
(B) Poultry ration
(C) Goat ration
(D) None of the above
8. Pre starter broiler ration contain critical methionine :
(A) 3%
(B) 2%
(C) 1.2%
(D) None of the above
9. Egg albumin is secreted by :
(A) Infundibulum
(B) Magnum
(C) Isthmus
(D) Uterus
10. Luteinizing Hormone (LH) from the anterior pituitary causes :
(A) Release of a mature yolk
(B) Oviduct to develop
(C) Increase in blood calcium
(D) Normal laying and secretion of albumen

11. The thyroid hormones affects :

- (A) Metabolic rate of the bird
- (B) Feather growth and colour
- (C) All of the above
- (D) None of the above

12. The tandem method of selection is preferred over independent culling level if :

- (A) Genetic correlations between traits are desirable
- (B) Phenotypic correlations between traits are positive
- (C) No correlations between the traits
- (D) None of the above

13. Family selection is the method of choice for traits with :

- (A) Low heritability
- (B) High heritability
- (C) Expression in one sex only
- (D) Large families

14. Proof that genetic variance exists at the stage of selection limit :

- (A) If there is response to reserve selection
- (B) If the population mean remains constant
- (C) Heritability remains constant
- (D) Reduction in phenotypic variance

15. Which is not the characteristic of the lines chosen for reciprocal recurrent selection ?

- (A) Differ in gene frequency
- (B) High level of performance
- (C) Inbred
- (D) Good combining ability

16. The superiority of a selection index in multi trait selection largely depends upon the accuracy of estimation of :

- (A) Heritability of the trait
- (B) Relative weights of the traits
- (C) Genetic and phenotypic variance and covariance
- (D) Repeatability of the traits

17. The effective number of parents under pedigree random breeding control populations will be :

- (A) $1/Ne = 1/4 M + 1/4 F$
- (B) $1/Ne = 3/16 M + 1/16 F$
- (C) $1/Ne = 3/32 M + 1/32 F$
- (D) $1/Ne = 3/32 M + 1/32 F$

18. The goal of the selection can be defined under :

- (A) Artificial selection
- (B) Natural selection
- (C) Both (A) and (B)
- (D) None of the above

19. Which one is not a polysaccharides ?
(A) Raffinose
(B) Dextrins
(C) Inulin
(D) Cellucose

20. In birds the main end product of protein metabolism are :
(A) Uric acid
(B) Allantoin
(C) Urea nitrogen
(D) Nitrate nitrogen

21. Which is not classified as basic amino acid ?
(A) Arginine
(B) Valine
(C) Histidine
(D) Lysine

22. Which one of the following is not a saturated fatty acid ?
(A) Palmitic acid
(B) Arachidic acid
(C) Stearic acid
(D) Arachidonic acid

23. Which of the following was also considered lately as an essential mineral ?
(A) Zinc
(B) Cobalt
(C) Selenium
(D) Chromium

24. Which is non-glycerol based lipid ?
(A) Lecithines
(B) Cephalines
(C) Triolein
(D) Steroids

25. Which is the main non-protein nitrogenous component of Berseem herbage ?
(A) Ammonia Nitrogen
(B) Amide Nitrogen
(C) Amino Nitrogen
(D) Nitrate Nitrogen

26. Which of the following is essential in prevention of perosis in chicks ?
(A) Choline
(B) Biotin
(C) Folic acid
(D) Pantothenic acid

27. Who was the first to unravel the secret of biological reproduction and heredity ?
(A) Charles Darwin
(B) Thomas Hunt Morgan
(C) John Gregor Mendel
(D) James D. Watson

28. The mahogany and red colors in cattle represent a good example to illustrate :

- (A) Sex-influenced inheritance
- (B) Sex-limited inheritance
- (C) Sex-linked inheritance
- (D) None of the above

29. The first case of mutation was discovered in :

- (A) Drosophila
- (B) Garden pea
- (C) Male lamb
- (D) Neurospora

30. Recurrent selection is practised to utilize :

- (A) Dominant deviation
- (B) Additive variance
- (C) Non-additive variance
- (D) Environmental variation

31. Selection is effective for those traits which are governed by :

- (A) Additive genes
- (B) Dominant genes
- (C) Epistatic genes
- (D) All of the above

32. Sib selection in cattle is recommended for :

- (A) Sex-linked trait
- (B) Sex-limited trait

33. The epistasis type of gene action is important for growth rate in poultry. Therefore, the type of selection practices is :

- (A) Recurrent Selection
- (B) Pedigree Selection
- (C) Reciprocal Recurrent Selection
- (D) All of the above

34. Manifold effects of a gene refer to :

- (A) Penetrance
- (B) Expressivity
- (C) Pleiotropy
- (D) Epistasis

35. _____ to the phenomenon of inbreeding depression is its opposite, 'hybrid vigour' or 'heterosis'.

- (A) Complementary
- (B) Supplementary
- (C) Additive
- (D) Multiplicative

36. The magnitude of inbreeding coefficient of close inbreeding under full-sib mating reaches 0.500 after _____ generation.

- (A) 2
- (B) 3
- (C) 4
- (D) 5

37. In a statistical hypothesis testing experiment, what type of error is committed by rejecting the null hypothesis when it is true :

- (A) Type – I
- (B) Type – II
- (C) Type – I and Type – II
- (D) None of the above

38. Which of the following has maximum chromosome number ?

- (A) Pig
- (B) Horse
- (C) Camel
- (D) Dog

39. Meat of buffalo is known as :

- (A) Beef
- (B) Carabeef
- (C) Mutton
- (D) Chevon

40. Which animal contribute maximum to the milk production of India ?

- (A) Goat
- (B) Buffalo
- (C) Cow
- (D) Sheep

41. Gestation period of cow and buffalo respectively (in days) are :

- (A) 310 and 282
- (B) 282 and 310
- (C) 336 and 250
- (D) 250 and 336

42. Normal body temperature of cattle is ($^{\circ}$ F) :

- (A) 100.8-102.4
- (B) 100.4-101.7
- (C) 100.9-102
- (D) 101.6-103

43. Which of the following animal has maximum pulse rate ?

- (A) Horse
- (B) Cattle
- (C) Pig
- (D) Dog

44. One ml of ejaculate of bull have how many million of sperms ?

- (A) 1100
- (B) 1300
- (C) 1500
- (D) 1800

45. Silent heat occurs in cow (in days) postpartum is :

- (A) 10-13
- (B) 13-15
- (C) 15-18
- (D) 60

46. Age of sexual maturity in cattle (in years) is :

- (A) 1-2
- (B) 2-8
- (C) 2-3
- (D) 4-5

47. The feed conversion efficiency is maximum in :

- (A) Cattle
- (B) Poultry
- (C) Pig
- (D) Camel

48. Mixed farming incorporates which of the following ?

- (A) Crop production
- (B) Animal production
- (C) Both of the above
- (D) Mixed crop production

49. Which river is richest fresh water fishes source in India ?

- (A) Jamuna
- (B) Chambal
- (C) Ganga
- (D) Narmada

50. Skeleton of foetus is made up of :

- (A) Bone only
- (B) Cartilage only
- (C) Mostly bone
- (D) Mostly cartilage

51. Which structure is between the bone to bone join ?

- (A) Ligament
- (B) Tendon
- (C) Both (A) and (B)
- (D) None of the above

52. Which of the following is absorbed in omasum ?

- (A) Water
- (B) Volatile fatty acid
- (C) Both of the above
- (D) None of the above

53. Which of the following breed of buffalo has maximum milk fat percentage in its milk ?

- (A) Murrah
- (B) Jaffarabadi
- (C) Mehsana
- (D) Nagpuri

54. Central cattle breeding farm for Thaparkar is located at :

- (A) Suratgarh
- (B) Jaisalmer
- (C) Sirsa
- (D) Hissar

55. NDRI is situated at :

- (A) Izzatnagar
- (B) Karnal
- (C) Delhi
- (D) Ludhiana

56. Which method is useful for experimental farm ?

- (A) Artificial insemination
- (B) Flock system
- (C) Pen system
- (D) Hand system

57. Why close grazing occurs in sheep ?
(A) Due to small muzzle
(B) Due to split upper lip
(C) Both (A) and (B)
(D) None of the above

58. How much water is needed for an adult sheep ?
(A) 2 litre water / day during winter
(B) 3.5-4 litre water / day during summer
(C) 2-3 litre water / every 1 kg of dry feed
(D) All of the above

59. Goat meat from which breed is more delicious :
(A) Black Bengal and Angora Chevon
(B) Nubian
(C) Chigu and Changthangi
(D) Marwari and Beetal

60. Is gestation heat present in goat ?
(A) Yes
(B) No
(C) May be
(D) Depend on age

61. Which contributes richness of flavour of milk ?
(A) Phospholipid
(B) Galactolipid
(C) Glycolipid
(D) Cholesterol

62. Ham is :
(A) Which comes from back and join
(B) Which comes from sides
(C) Comes from join and sides
(D) Comes from rear quarters

63. Nutritional deficiency occur more in which of the following ?
(A) Pig
(B) Ruminant
(C) Both (A) and (B)
(D) Camel

64. Fat from pig carcass after it has been tendered is known as :
(A) Gammon
(B) Lard
(C) Ham
(D) All of the above

65. Pressure of hand milking should be :
(A) 25-40mm of Hg
(B) 25-50 mm of Hg
(C) 35-40 mm of Hg
(D) 35-50 mm of Hg

66. Specific gravity of milk is :
(A) 0.94
(B) 1
(C) 1.030
(D) 1.050

67. Which is the most heat tolerate exotic breed of cattle ?

(A) H. F.
(B) Jersey
(C) Ayreshire
(D) Brown Swiss

68. The factor responsible for initiating cell division is :

(A) Cytoplasmic index
(B) DNA
(C) Karyoplasmic index
(D) Nucleus

69. Crossing over takes place between :

(A) Sister cromatid
(B) Non-sister cromatid
(C) Chromosome
(D) Chromonema

70. The type of cell division which takes place only once in cell lifetime, is called :

(A) Amitosis
(B) Meiosis
(C) Mitosis
(D) Free cell division

71. Crossing over takes place in :

(A) Mitosis
(B) Meiosis I
(C) Meiosis II
(D) All of the above

72. What happens in crossing over ?

(A) Duplication of chromosome
(B) Linkage in chromosome
(C) Minimization in genetic material
(D) Exchange of genetic material

73. Role of mutation in evolution is :

(A) Reproductive isolation
(B) Genetic variation
(C) Genetic drift
(D) None of the above

74. Which is a tetrasomic condition ?

(A) $2n - 1$
(B) $2n + 1 + 1$
(C) $2n + 2$
(D) $2n + 3$

75. Mutation induced by 5-Bromouracil are :

(A) Transversional mutation
(B) Transitional mutation
(C) Frame shift mutation
(D) Backward mutation

76. Enzyme useful in genetic engineering is :

(A) Lipase
(B) DNA ase
(C) Restriction endonuclease
(D) Amylase

77. Daughter of colour blind father and normal mother marries a normal person. Colour blindness in the family shall be :
(A) 50% sons
(B) 50% daughter
(C) 50% offspring
(D) 50% son and 50% daughter

78. Sum total of genes in population is :
(A) Genotype
(B) Phenotype
(C) Karyotype
(D) Gene pool

79. The enzyme which combines with a non-protein prosthetic group to form a functional enzyme is called :
(A) Coenzyme
(B) Proenzyme
(C) Holoenzyme
(D) Apoenzyme

80. Chromosome which do not have centromere is called :
(A) Monocentric
(B) Diacentric
(C) Acentric
(D) Polycentric

81. Diagrammatic representation of the karyotype is called :
(A) Cladogram
(B) Cryptogram
(C) Idiogram
(D) All of the above

82. Mitosis can occur in which of the following ?
(A) Haploid cells
(B) Diploid cells
(C) Polyploid cells
(D) All of the above

83. The minimum number of chiasmata in a pair is :
(A) One
(B) Two
(C) Three
(D) Four

84. During karyokinesis the chromosome exhibit minimum coiling at which phase ?
(A) Prophase
(B) Metaphase
(C) Anaphase
(D) Interphase

85. Drones are :
(A) Sterile males
(B) Sterile females
(C) Fertile females
(D) Fertile males

86. Which excretory material is least toxic ?
(A) Ammonia
(B) Urea
(C) Uric Acid
(D) Trimethyl amine oxide

87. The variance ratio in case of 'F' test is _____ than one.

(A) Less
(B) More
(C) Equal
(D) None of the above

88. Most efficient form of breeding is :

(A) Inbreeding
(B) Out-breeding
(C) Both of the above
(D) None of the above

89. Inbreeding coefficient is a measure of increase of :

(A) Homozygosity
(B) Heterozygosity
(C) Both (A) and (B)
(D) None of the above

90. Breeding system by which a few pure breed sires can rather quickly transform a nondescript population into the purebred is called :

(A) Cross-breeding
(B) Live breeding
(C) Out crossing
(D) Grading up

91. Who described the operon concept in *E. coli* ?

(A) Mendel, Darwin
(B) Hugo de Vries, Muller
(C) Miller, Muller
(D) Francis Jacob and Jacques Monod

92. H. J. Muller reported that the X-rays induces :

(A) Selection
(B) Mutation
(C) Migration
(D) Aberration

93. Common wheat with 42 chromosomes is :

(A) Tetraploid
(B) Triploid
(C) Octaploid
(D) Hexaploid

94. The sex chromosomes of females and males are respectively :

(A) XX in females and XY or (XO) in males
(B) XY in females and XX in males
(C) XO in females and XX in males
(D) XX in females and XX in males

95. Dr. Hargobind Khurana has been awarded Nobel Prize for research on :

(A) Oral contraceptives
(B) Hormones
(C) Genetic code
(D) Immunology

96. Name the breed of poultry with black meat :

(A) Aseel
(B) Tellichery
(C) Kadaknath
(D) All of the above

97. Double humped camels are found in :
(A) Rajasthan
(B) Gujarat
(C) Ladakh
(D) All of the above

98. Pashmina is obtained from :
(A) Angora rabbit
(B) Angora goat
(C) Karakul sheep
(D) None of the above

99. Pregnancy feeding allowance in cow should start after :
(A) 6 months
(B) 8 months
(C) 3 months
(D) None of the above

100. The human liver cannot produce :
(A) Starch
(B) Glycose
(C) Glycogen
(D) None of the above

101. TCA cycle is operative in :
(A) Mitochondria
(B) Microsomes
(C) Cytosol
(D) None of the above

102. Phosphorylase A converts :
(A) Glucose to fructose
(B) Fructose to glucose
(C) Glycogen to glucose 1-p
(D) None of the above

103. Increased NADPH will favour the formation of :
(A) Saturated fatty acids
(B) Unsaturated fatty acids
(C) None of the above
(D) All of the above

104. Starch is hydrolysed by :
(A) Amylase
(B) Phosphorylase
(C) Hexokinase
(D) None of the above

105. Testosterone is secreted by :
(A) Germinal epithelium
(B) Interstitial cells
(C) Sertoli cells
(D) None of the above

106. Castration of the male calf causes total loss of :
(A) Erection
(B) Ejaculation
(C) Sexual desire
(D) All of the above

107. A small amount of progesterone is required for the :

- (A) Maintenance of corpus luteum
- (B) Noncontractile condition of the uterus
- (C) Ovulation
- (D) None of the above

108. In case of rodents the hormone that is responsible for maintenance of corpus luteum is :

- (A) Follicle stimulating hormone
- (B) Luteinizing hormone
- (C) L. T. H.
- (D) None of the above

109. In the development of under estrogen takes part in causing :

- (A) Tubular development
- (B) Alveolar development
- (C) Development of milk cistern
- (D) None of the above

110. Clinical significance of vagus nerve increase and prostaglandin fibre is :

- (A) Motor
- (B) Sensory
- (C) Mixed
- (D) None of the above

111. Signs of persistent oestrus at frequent but irregular intervals lead to :

- (A) Nymphomania

- (B) Split oestrus
- (C) None of the above
- (D) All of the above

112. Ketone bodies include which of the following ?

- (A) Aceto-acetic acid
- (B) Acetone
- (C) Beta hydroxybutyric acid
- (D) All of the above

113. The quality of glomerular filtrate formed each minute in all the nephrons of both the kidneys is called :

- (A) GF
- (B) GFR
- (C) FGC
- (D) None of the above

114. The hormones are chemically or steroid in nature :

- (A) Protein
- (B) Fat
- (C) Vitamins
- (D) Sterol

115. Amino acids which are not synthesized in the body are known as :

- (A) Non-essential
- (B) Essential
- (C) Both (A) and (B)
- (D) None of the above

116. The principal function of colon is _____ of water and electrolytes from the chyme.

- (A) Absorption
- (B) Excretion
- (C) Both (A) and (B)
- (D) None of the above

117. Secretions of seminal vesicles :

- (A) Is alkaline
- (B) Is of no importance to reproduction
- (C) Is mucoid
- (D) None of the above

118. Which of the following is not an anticoagulant ?

- (A) Heparin
- (B) Sodium oxalate
- (C) Calcium chloride
- (D) EDTA

119. Ovulation can occur at ovulation fossa in which of the following species ?

- (A) Ewe
- (B) Cow
- (C) Horse
- (D) None of these

120. Sodium pump decreases the concentration of sodium ions inside the nerve fiber to :

- (A) 5m Eq/1
- (B) 10m Eq/1
- (C) 142m Eq/1
- (D) 150m Eq/1

121. Successful embryo development in the recipients is dependent :

- (A) On the age and stage of embryonic development at the time of transfer
- (B) On the uterine environment of the recipient only
- (C) On the level of maternal plasma estrogen
- (D) All of the above

122. In the parturition process :

- (A) The oxytocin increase is followed by prostaglandin increase
- (B) The oxytocin increase is preceded by prostaglandin increase
- (C) Oxytocin and prostaglandin act simultaneously
- (D) None of the above

123. The hypothalamus contains centre which can :

- (A) Increase the rate of heat loss
- (B) Decrease the rate of heat production
- (C) Decrease the rate of heat loss
- (D) All of the above

124. Cold stress increases the hormonal output of :

- (A) Adrenal medulla
- (B) Adrenal cortex
- (C) Thyroid
- (D) All of the above

125. Which hormones when excessively secreted results in alkalosis ?

(A) Growth hormone
(B) Cortisol
(C) Aldosterone
(D) Anti-diuretic hormones

126. The commonly used drug that can be employed to super ovulate mare :

(A) PMSG
(B) Equine follicle stimulating hormone
(C) Equine chorionic gonadotropin
(D) Stilboesterol

127. The inhibin is secreted from cell of :

(A) Leydig
(B) Sertoli
(C) Epididymis
(D) None of the above

128. The endocrine glands are :

(A) 7
(B) 65
(C) 6
(D) 25

129. Pancreatic trypsinogen is converted to Trypsin by which of the following enzyme mainly present in the duodenal juice ?

(A) Pancreozyme
(B) Peptidase
(C) Enterokinase
(D) Carbonic anhydrase

130. Oxytocin synthesis occurs in which of the following structures of the brain ?

(A) Basal ganglia
(B) Hypothalamus
(C) Medulla oblongata
(D) Cerebellum

131. Na^+ is retained under the influence of :

(A) Aldosterone
(B) Anti-diuretic hormone
(C) Oxytocin
(D) All of the above

132. Urine of cattle is of what nature ?

(A) Acidic
(B) Basic
(C) Neutral
(D) None of the above

133. Which part of ruminant stomach is known as pouch ?

(A) Rumen
(B) Reticulum
(C) Omasum
(D) Abomasum

134. Length of rumen papilla is :

(A) 1 cm
(B) 10 cm
(C) 1 m
(D) 20 cm

135. Nb_4O_8 have Iron is :

- (A) Fe^{++}
- (B) Fe^{+++}
- (C) Both (A) and (B)
- (D) None of the above

136. Respiratory pressure of O_2 in arterial blood is :

- (A) 48 mm Hg
- (B) 46 mm Hg
- (C) 40 mm Hg
- (D) 50 mm Hg

137. RBC membrane impermeable to which of the following ?

- (A) Cation
- (B) Anion
- (C) Both (A) and (B)
- (D) None of the above

138. Which of the following is the rate of respiration in cow ?

- (A) 12
- (B) 36
- (C) 26
- (D) 30

139. Clinical condition of bluishness of skin and mucosa is known as :

- (A) Bluinosis
- (B) Cyanosis
- (C) Blackness
- (D) All of the above

140. Renal blood flow is controlled by juxtaglomerular cells through :

- (A) Rennin angeotensin system
- (B) Prostaglandins of medulla
- (C) Epinephrine
- (D) All of the above

141. Percentage of CH_4 in rumen is :

- (A) 7
- (B) 65
- (C) 6
- (D) 25

142. Percentage of CO_2 in rumen is :

- (A) 7
- (B) 65
- (C) 6
- (D) 25

143. Total protozoa ($\times 10^6$) in buffalo is which of the following ?

- (A) 1-2
- (B) 2-11
- (C) 3-20
- (D) 1.5-8

144. Types of bacteria in rumen is which of the following ?

- (A) Gram-veccoci
- (B) Non-spore formation
- (C) Anaerobes
- (D) All of the above

145. A muscle possess higher water holding capacity in :

- (A) Rigor state
- (B) Pre-rigor state
- (C) Post-rigor state
- (D) Any of the above

146. When collagen is heated in the water to 80°C :

- (A) Collagen remains insoluble
- (B) Collagen begins to be converted into gelatine
- (C) Collagen fibres gets only shortened
- (D) Any of the above

147. Most aluminium foil used is known to be dead soft which has good folding characteristics which belongs to :

- (A) "O" temper
- (B) "H-12" temper
- (C) "H-14" temper
- (D) All of the above

148. As per PFA standards, the maximum limit for added diacetyl content in deshi butter is :

- (A) 3 ppm
- (B) 5 ppm
- (C) 2 ppm
- (D) Nil

149. The permitted antioxidant in ghee is :

- (A) BHA
- (B) BHT
- (C) NDGA
- (D) Ethyl gallate

150. Salmonellosis is an example for which of the following ?

- (A) Infectious type of food poisoning
- (B) Non-infectious type of food poisoning
- (C) Chemical food poisoning
- (D) None of the above

151. Protein content of white meat is :

- (A) Lesser than red meat
- (B) Higher than red meat
- (C) Equal than red meat
- (D) No comparison with red meat

152. Which is firm meat ?

- (A) Pork
- (B) Chevon
- (C) Mutton
- (D) Chicken

153. Maximum fat present in which meat ?

- (A) Carabeef
- (B) Beef
- (C) Pork
- (D) Rabbit

154. Which is maximum SPC for pasteurized milk ?
(A) 0 / ml
(B) 100 / ml
(C) 30,000 / ml
(D) 1 lac / ml

155. Acid treatment of collagen produce :
(A) Collagen
(B) Elastin
(C) Gelatine
(D) Reticulin

156. Which meat has cherry red colour ?
(A) Mutton
(B) Pork
(C) Chevon
(D) Beef

157. Brown colour of meat is due to :
(A) Oxyhaemoglobin
(B) Oxymyoglobin
(C) Methmyoglobin
(D) All of these

158. Meat is more firm :
(A) In older animal
(B) During chilling
(C) Both (A) and (B)
(D) In younger animal

159. Shelf life of vacuum packaging cuts for lambs is :
(A) 10 days
(B) 2 weeks

(C) 3 weeks
(D) 8-10 weeks

160. Curing solution known as :
(A) Salt pater
(B) Salt
(C) Pickle
(D) All of these

161. Which is bacterial in smoking ?
(A) Hcho
(B) Phenol
(C) Both (A) and (B)
(D) Saw dust/hard wood

162. Which heat is more effective ?
(A) Moist
(B) Dry
(C) Mixture
(D) 60 : 40 combination

163. Extra chromosomal piece is known as :
(A) Cosmid
(B) Episome
(C) Plasmid
(D) Bacteriophage

164. In polymerase chain reaction which of the following is required essentially ?
(A) DNA ligase
(B) DNA primer
(C) DNA polymerase
(D) None of the above

165. Antibodies that recognize only one epitope and derived from a single clone is called :
(A) Polyclonal antibodies
(B) Monoclonal antibodies
(C) Monovalent antibodies
(D) Bivalent antibodies

166. The initiation codon for translation in prokaryotes is :
(A) UGA
(B) AUG
(C) GAU
(D) UUA

167. ELISA rest essentially required which of the following ?
(A) Antigen, antibody and conjugate
(B) Antigen, antibody, substrate and ELISA plate
(C) Antigen, antibody, conjugate, substrate and ELISA plate
(D) Antigen, antibody and ELISA plate

168. Who associated with Hybridoma Technology ?
(A) Saiki
(B) Butler and Chase
(C) Zinkernagel and Doherty
(D) Kohler and Milestein

169. Number of base pair units in a single turn of DNA is :
(A) 4

(B) 6
(C) 8
(D) 10

170. At pH, the direction of glutamic acid in electrophoresis is towards :
(A) Cathode
(B) Anode
(C) No migration
(D) Both cathode and anode

171. The pH of a buffer to be used for the separation of Lysine and Histidin in cation exchange column is :
(A) 2
(B) 4
(C) 8
(D) 12

172. The metabolism of amino acid is initiated by :
(A) Deamination
(B) Hydrogenation
(C) Amination
(D) None of the above

173. In the Watson-Crick model for the DNA the distance between the 1' carbons on the deoxyribose moieties of A + T or G + C were :
(A) 1.1 nm
(B) 2.1 nm
(C) 3.1 nm
(D) Different always

174. In polymerase chain reaction, number of oligonucleotide primers used are :

(A) One
(B) Five
(C) Four
(D) Two

175. The lethal gene ratio is :

(A) 8 : 1
(B) 2 : 1
(C) 4 : 1
(D) 1 : 1

176. The fragments of DNA attached to an RNA initiator component was discovered by :

(A) Watson and Crick
(B) Okazaki
(C) Peterson
(D) Nelson

177. The carbon atom at position 4 and 5 and the nitrogen atom at the position 7 of purine base are supplied from :

(A) Valine
(B) Alanine
(C) Glycine
(D) Serine

178. In protein synthesis 'start' signal is made by codon :

(A) UAG
(B) UAA
(C) UGA
(D) AUG

179. Small molecule contaminants from a protein can be removed by :

(A) Filtration
(B) Dialysis
(C) Solvolysis
(D) Solvent partition

180. Which of the following is an amino acid without chiral centre ?

(A) Glycine
(B) Serine
(C) Threonine
(D) Tryptophan

181. Community Development Programme were introduced in India for rural development :

(A) In early 40's
(B) In early 50's
(C) In early 60's
(D) In early 70's

182. New name of V. L. W. is :

(A) V. L. O.
(B) V. D. O.
(C) R. D. O.
(D) None of the above

183. For long term requirement the farmers do not depend upon :

(A) Government
(B) Land Development Banks
(C) The Money Lenders
(D) Cooperative Credit Societies

184. The development plans of a district and coordination of activities of a Panchayat Samiti is responsible to which of the following ?

(A) Gram Pradhan
(B) Pramukh
(C) Zila Parishad
(D) Block Development Officer

185. Rural Development Programme should be formed to meet :

(A) Short term changes
(B) Emergent situation
(C) Long term changes
(D) All of the above

186. The First Agricultural University of India is :

(A) P.A. U., Ludhiana (Punjab)
(B) H.A. U., Hissar (Haryana)
(C) A. P. A. U., Hyderabad (AP)
(D) B. B. P. U. A & T., Patnagar (UP)

187. A good extension programme should be :

(A) Flexible
(B) Rigid
(C) Both (A) and (B)
(D) None of the above

188. The idea of having a village guide in each village for introducing new skills among the rural people was introduced by :

(A) R. N. Tagore

(B) B. P. Pant
(C) Mahatma Gandhi
(D) F. L. Braynew

189. Special Livestock Production Programme was initiated in :

(A) 1974-75
(B) 1979-80
(C) 1978-79
(D) 1981-82

190. The national level body for policy formulation of rural development programme in our country is :

(A) National Development Council
(B) Planning Commission
(C) Price Commission
(D) None of the above

191. TV includes :

(A) Audio and visual both devices
(B) Visual device
(C) Audio device
(D) Not known, it is complicated item

192. Family of one male with many wives is known as :

(A) Polyandrous family
(B) Polygynous family
(C) Both (A) and (B)
(D) None of the above

193. Ancestral property inheritance from male to male is property of which family ?

- (A) Nuclear family
- (B) Combined family
- (C) Patrilineal family
- (D) Matrilineal family

194. Collection of more than one set of people to solve a joint problem is known as :

- (A) Client system
- (B) Cooperative system
- (C) Cummulative system
- (D) Social system

195. Process by which individual maintain contract with its environment :

- (A) Fidelity
- (B) Perception
- (C) Feedback
- (D) Communication gap

196. Determine the suitability of new practice in prevailing situation is :

- (A) Adaptive trial
- (B) Mini kit trial
- (C) Determining trial
- (D) Both (A) and (B)

197. Decision not to adopt an innovation is known as :

- (A) Implementation
- (B) Rejection
- (C) Persuasion
- (D) Predictability

198. Written form of extension teaching methods does not include which of the following ?

- (A) Bulletin
- (B) Leaflet
- (C) Pamphlet
- (D) Blackboard

199. Traditional people oriented to past and never accept an innovation are known as :

- (A) Innovation
- (B) Adaptor
- (C) Rejector
- (D) Laggard

200. Operation flood was started in :

- (A) 1970
- (B) 1978
- (C) 1986
- (D) 1969

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