

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

Test Booklet Series

T. B. C. : VS - 1 - 17

**A**

**TEST BOOKLET**  
**VETERINARY ASSISTANT SURGEON**  
**PAPER - I**  
**(Veterinary Science)**

Serial No. **1077**

**Time Allowed : 2½ 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.

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**SEAL**

1. The major constituent of Gram positive bacterial cell wall is :
  - (A) Peptidoglycan
  - (B) Lipopoly saccharides
  - (C) Mycolic acid
  - (D) Dipicolinic acid
2. The stain used in Mac Fadeyan reaction is :
  - (A) Polychrome methylene blue
  - (B) Indian ink
  - (C) Carbol fuchsin
  - (D) Sudan black
3. The disease status of the livestock of a country is being notified by :
  - (A) FAO
  - (B) WHO
  - (C) UNESCO
  - (D) OIE
4. Syncytium or giant cell formation is a feature of :
  - (A) Picornavirus
  - (B) Paramyxovirus
  - (C) Papovavirus
  - (D) Hepdnavirus
5. The viruses can cause Haemggglutination except :
  - (A) Influenza virus
  - (B) EDS76 virus
  - (C) Canine parvovirus
  - (D) Marek's disease virus
6. Ephemeral fever virus belongs to the family :
  - (A) Filoviridae
  - (B) Rhabdoviridae
  - (C) Paramyxoviridae
  - (D) Iridoviridae
7. The best route of chick embryo inoculation for isolation of blue tongue virus is :
  - (A) Allontonic route
  - (B) Chorioallontoic route
  - (C) Yolk sac route
  - (D) Intravenous route
8. Peste des petits ruminants virus belongs to the genus :
  - (A) Morbillivirus
  - (B) Rubellavirus
  - (C) Pneumovirus
  - (D) Respirovirus
9. The following are sterilized by autoclaving except :
  - (A) Bacteriological media
  - (B) Rubber appliances
  - (C) Serum for growth medium
  - (D) Glass syringes

10. Selective medium for Staphylococci is :  
 (A) Blood agar  
 (B) Nutrient agar  
 (C) Monnitol salt agar  
 (D) Potassium tellurite agar
11. The string of pearls on nutrient agar colonies is caused by :  
 (A) *Bacillus anthracis*  
 (B) *Bacillus subtilis*  
 (C) *Clostridium botulinum*  
 (D) *Clostridium welchii*
12. Name of the lactose fermenter genus of the family Enterobacteriaceae :  
 (A) *Salmonella*  
 (B) *Klebsiella*  
 (C) *Shigella*  
 (D) *Proteus*
13. Wonden tongue in cattle is caused by :  
 (A) *Actinobacillus lignieresii*  
 (B) *Actinomyces bovis*  
 (C) *Pasteurella multocida*  
 (D) *Yersinia pestis*
14. The colonies of *Aspergillus fumigatus* are :  
 (A) Black in colour  
 (B) Green in colour  
 (C) Red in colour  
 (D) Colourless
15. A negative complement fixation test is indicated by :  
 (A) Haemagglutination  
 (B) Haemolysis  
 (C) No haemolysis  
 (D) No Haemagglutination
16. Nagler's reaction on egg yolk agar is due to :  
 (A) Leucocidin  
 (B) Lecithinase  
 (C) Proteinase  
 (D) Hyaluronidase
17. Hog cholera is antigenically related to :  
 (A) Blue tongue virus  
 (B) Bovine viral diarrhoea virus  
 (C) African swine fever virus  
 (D) Rinderpest virus
18. Chlamydiae can be stained with following stains except :  
 (A) Grams stain  
 (B) Machiavello stain  
 (C) Giminey stain  
 (D) Castaneda stain
19. The organism which do not require sterol are :  
 (A) *Mycoplasma*  
 (B) *Acholeplasma*  
 (C) *Ureaplasma*  
 (D) All of the above

20. All the Salmonell are motile except :  
 (A) *S. Gallinarum*  
 (B) *S. Pullorum*  
 (C) Both (A) and (B)  
 (D) None of the above
21. Ring worm is the disease caused by :  
 (A) *Histoplasma*  
 (B) *Penicilium*  
 (C) *Dermatophytes*  
 (D) *Norcadia*
22. Chinese letter arrangements is characteristics of :  
 (A) *Corynebacteria*  
 (B) *Streptococci*  
 (C) *Listeria*  
 (D) *Camypylobacter*
23. Stonebrinks medium is used for the isolation of :  
 (A) *Mycoplasma*  
 (B) *Mycobacterium*  
 (C) *Chlamydia*  
 (D) *Corynebacterium*
24. Which of the following generally does not produce food poisoning ?  
 (A) *Salmonella*  
 (B) *Staphylococcus*  
 (C) *Pasteurella*  
 (D) *Bacillus*
25. Segmented genome is present in :  
 (A) *Poxviridae*  
 (B) *Flaviviridae*  
 (C) *Reoviridae*  
 (D) *Herpesviridae*
26. Which one of the following is not a viral disease ?  
 (A) Glanders  
 (B) PPR  
 (C) FMD  
 (D) Blue tongue
27. Which one of the following is a zoonotic disease ?  
 (A) FMD  
 (B) Rabies  
 (C) Avian encephalomyelitis  
 (D) ILT
28. Canine parvovirus contains :  
 (A) Single stranded RNA  
 (B) Double stranded RNA  
 (C) Double stranded DNA  
 (D) Single stranded DNA
29. All the virus families have icosahedral symmetry except :  
 (A) *Poxviridae*  
 (B) *Adenoviridae*  
 (C) *Herpesviridae*  
 (D) *Parvoviridae*

30. Which of the following family has diploid RNA genome ?  
 (A) Reoviridae  
 (B) Birnaviridae  
 (C) Retroviridae  
 (D) Picornaviridae
31. FMD virus belongs to family :  
 (A) Picornaviridae  
 (B) Calciviridae  
 (C) Retroviridae  
 (D) Parvoviridae
32. EMJH medium is used for the isolation of :  
 (A) *Coxiella*  
 (B) *Leptospira*  
 (C) *Bacillus*  
 (D) *Mycobacterium*
33. Swine erysipelas is caused by :  
 (A) *Coxiella burnetti*  
 (B) *Erysipelothrix rhusiopathiae*  
 (C) *Bacillus anthracis*  
 (D) *Bordetella bronchiseptica*
34. X and V factors are required for the growth of :  
 (A) *Bacillus*  
 (B) *Mycobacterium*  
 (C) *Streptococci*  
 (D) *Haemophilus*
35. H antigens are derived from :  
 (A) Cell  
 (B) Flagella  
 (C) Cell wall  
 (D) None of the above
36. Ascoli's test is used for the diagnosis of :  
 (A) Anthrax  
 (B) HS  
 (C) BQ  
 (D) Leptospirosis
37. Equine infectious anaemia virus belongs to family :  
 (A) Retroviridae  
 (B) Adenoviridae  
 (C) Herpesviridae  
 (D) Parvoviridae
38. Which of the following RNA virus family has positive sense single stranded genome ?  
 (A) Picornaviridae  
 (B) Calciviridae  
 (C) Retroviridae  
 (D) All of the above
39. Bollinger bodies are seen in :  
 (A) Fowlpox  
 (B) Rabies  
 (C) Sheeppox  
 (D) Goatpox
40. Borrel bodies are produced by :  
 (A) Fowlpox virus  
 (B) Rabies virus  
 (C) Sheeppox virus  
 (D) Goatpox virus

41. The cotton wool plug technique for sterile media :
  - (A) Louis Pasteur
  - (B) Cohn
  - (C) Joseph Lister
  - (D) Schroeder and Dusch
42. Gas pack is used in the isolation of :
  - (A) *Salmonella*
  - (B) *Clostridium*
  - (C) *Erysipelothrix*
  - (D) *Clostridium*
43. Extra chromosomal DNA is called as :
  - (A) Plasmid
  - (B) Phage
  - (C) Recombinant DNA
  - (D) Mitochondria
44. Bacteria are classified under the Kingdom :
  - (A) Prokaryotae
  - (B) Eukaryotae
  - (C) Eumycotae
  - (D) Bacidomycotae
45. Resolution of microscope can be improved by :
  - (A) Increasing the wavelength of light
  - (B) Decreasing the wavelength of light
  - (C) Both (A) and (B)
  - (D) None of the above
46. LANA test used to differentiate :
  - (A) Gram positive and Gram negative organism
  - (B) Acid fast and non-acid fast organism
  - (C) Pathogenic and non-pathogenic organism
  - (D) Lactose and non-lactose fermenters
47. Bacterial variations derived through transfer of genetic materials by bacteriophage :
  - (A) Transduction
  - (B) Transformation
  - (C) Translation
  - (D) Conjugation
48. Genetic reassortment of genomic segments are noticed in :
  - (A) DNA virus
  - (B) RNA virus
  - (C) Plant virus
  - (D) Naked virus
49. Spirochetes can be viewed under :
  - (A) Fluorescent microscope
  - (B) Dark field microscope
  - (C) Light microscope
  - (D) Dissection microscope
50. The optimal temperature for the growth of pathogenic bacteria is :
  - (A) 37°C
  - (B) 33°C
  - (C) 44.5°C
  - (D) 22°C

51. The book with recent bacterial classification is :
  - (A) Bergey's manual
  - (B) Clergy's manual
  - (C) Black's veterinary manual
  - (D) OIE disease diagnosis manual
52. Compound microscope invented by :
  - (A) Leewenhock
  - (B) Mitchinicoff
  - (C) Zacharias Janssen
  - (D) Peter Antony Michale
53. Anaerobic media are otherwise called :
  - (A) Selective medium
  - (B) Enriched medium
  - (C) Enrichment medium
  - (D) Reducing medium
54. In haemagglutination there is agglutination between :
  - (A) Viral antigen and erythrocytes
  - (B) Antigen and antibody
  - (C) Antigen and erythrocytes
  - (D) Antigen, antibody and complement
55. In RNA the thymidine base is replaced by :
  - (A) Adenine
  - (B) Guanine
  - (C) Uracil
  - (D) Cytosine
56. Organism that grow in zero degree is :
  - (A) Mesophiles
  - (B) Thermophiles
  - (C) Xerophiles
  - (D) Psychrophiles
57. Acid fast stain is :
  - (A) Zeihl Neelson stain
  - (B) Gram stain
  - (C) Geimsa stain
  - (D) Methylene blue
58. Spirochaetes can be seen by :
  - (A) Light microscope
  - (B) Dark field microscope
  - (C) Phase contrast microscope
  - (D) FAT
59. Defined glycocalyx is :
  - (A) Capsule
  - (B) Slime layer
  - (C) Endospore
  - (D) Cell wall
60. Anti toxin was discovered by :
  - (A) Kitasato and Van Bhoering
  - (B) Karry Mullys
  - (C) Ele Metchnikoff
  - (D) None of the above
61. Flagellar antigen is :
  - (A) 'O' antigen
  - (B) 'H' antigen
  - (C) 'K' antigen
  - (D) 'F' antigen

62. Haemagglutination inhibition tests are simple and used when the virus is :  
 (A) Enveloped  
 (B) Naked  
 (C) Ether sensitive  
 (D) Haemagglutinating
63. Cats infected with canine adenovirus 1 forms virus-antibody complex and result in :  
 (A) Red eye  
 (B) Blue eye  
 (C) Paralysis  
 (D) Dermatitis
64. Czapek Dox medium is used for :  
 (A) Culture of primary cells  
 (B) Culture of Mycoplasma  
 (C) Culture of fungus  
 (D) For growing viruses
65. Chocolate agar is used for :  
 (A) *Leptospiral*  
 (B) *Nocardia*  
 (C) *Listeria*  
 (D) *Haemophilus*
66. Fracastorius of Verona is associated with :  
 (A) Microbial origin of disease  
 (B) Microscope  
 (C) Bacterial medium  
 (D) Theory of spontaneous generation
67. Saviour of French Wine Industry :  
 (A) Louis Pasteur  
 (B) Robert Hooke  
 (C) Antoni van Leeuwenhoek  
 (D) Joseph Lister
68. The serotype of aphthovirus that is not prevalent in India is :  
 (A) "O"  
 (B) "A"  
 (C) "C"  
 (D) "SAT 1"
69. All pathogenic mycobacterium produce mycobactins except :  
 (A) *Mycobacterium leprae*  
 (B) *Mycobacterium avium*  
 (C) *Mycobacterium tuberculosis*  
 (D) *Mycobacterium paratuberculosis*
70. Pink eye in cattle is caused by :  
 (A) *Actinobacillus bovis*  
 (B) *Coxiella burnetti*  
 (C) *Rickettsia rickettsii*  
 (D) *Moraxella bovis*
71. Drug resistance in bacteria is transmitted by :  
 (A) Plasmid DNA  
 (B) Genomic DNA  
 (C) Mitochondria  
 (D) RNA



72. Neutralisation tests estimate the ability of antibody to neutralize :
- (A) Antigen
  - (B) Antibody
  - (C) Complement
  - (D) None of the above
73. Marek's disease is antigenically related to :
- (A) Herpes virus of Turkey
  - (B) Duck plague virus
  - (C) Duck enteritis virus
  - (D) ILT virus
74. Ulcerative lymphangitis is caused by :
- (A) *Histoplasma farciminosus*
  - (B) *Pasteurella pseudotuberculosis*
  - (C) *Corynebacterium pseudotuberculosis*
  - (D) *Actinobacillus mallei*
75. Preisz-Nocard bacilli is :
- (A) *Corynebacterium pseudotuberculosis*
  - (B) *Bacillus anthracis*
  - (C) *Clostridium perfringens*
  - (D) None of the above
76. In TSI agar *Salmonella* produces :
- (A) Acid butt, alkaline slant and blackening
  - (B) Acid butt, alkaline slant and no blackening
  - (C) Alkaline butt, alkaline slant and blackening
  - (D) None of the above
77. Lamb dysentery :
- (A) *Cl. Welchii* type B
  - (B) *Cl. Welchii* type E
  - (C) *Cl. Welchii* type C
  - (D) None of the above
78. All the members of family Enterobacteriaceae are :
- (A) Strict aerobic
  - (B) Aerobic and facultative anaerobe
  - (C) Anaerobic
  - (D) Capsulated
79. Canine parvovirus can be best isolated using :
- (A) Vero cell line
  - (B) BHK<sub>12</sub> cell line
  - (C) MDCK cell line
  - (D) A-72 cell line
80. In vero cells the characteristic syncytium is produced by :
- (A) EDS 72 virus
  - (B) Fowlpox virus
  - (C) Sheeppox virus
  - (D) Rinderpest virus

81. Bovine viral diarrhoea agent is antigenically related to :
- (A) IBRT virus
  - (B) Hog cholera virus
  - (C) African swine fever virus
  - (D) Rinderpest virus
82. Kyasanur forest disease virus is transmitted by :
- (A) *Haemaphysalis spiniger*
  - (B) *Ixodes ricinus*
  - (C) *Hyalomma anatolicum*
  - (D) *Rhipicephalus sanguineus*
83. Viruses contain the following except :
- (A) RNA
  - (B) DNA
  - (C) Enzymes
  - (D) Cell wall
84. Viruses are :
- (A) Obligate intracellular parasite
  - (B) Divide by binary fission
  - (C) Have their own metabolism
  - (D) Sensitive to antibiotics
85. The following viruses are segmented except :
- (A) Orthomyxoviruses
  - (B) Bunyaviruses
  - (C) Rotaviruses
  - (D) Paramyxoviruses
86. The following are non-enveloped viruses except :
- (A) Adenoviruses
  - (B) Rotaviruses
  - (C) Parvoviruses
  - (D) Herpesviruses
87. The following viruses replicate in the nucleus except :
- (A) Herpesviruses
  - (B) Orthomyxoviruses
  - (C) Adenoviruses
  - (D) Poxviruses
88. Testing for mycoplasma infection in cell culture is done using :
- (A) Acridine orange stain
  - (B) Luminol
  - (C) Nigrosin dye
  - (D) Hoechst stain
89. Dimorphic exhibits :
- (A) Yeast at 37°C and Mycelium at 20°C
  - (B) Rods and coccoci
  - (C) Pleomorphic
  - (D) Bundle of faggots
90. Drum sticks appearance in :
- (A) *Clostridium tetani*
  - (B) *Clostridium chauvoei*
  - (C) *Clostridium novyi*
  - (D) *Clostridium septicum*

91. Serotype O157: H7 is associated with :  
 (A) *Mycobacterium tuberculosis*  
 (B) *Pasteurella multocida*  
 (C) *Salmonella gallinarum*  
 (D) *Escherichia coli*
92. Extract of *M. phlei* used in :  
 (A) *Escherichia coli*  
 (B) *Mycobacterium tuberculosis*  
 (C) *Clostridium chauvoei*  
 (D) *Mycobacterium paratuberculosis*
93. Strawberry foot rot of sheep is due to :  
 (A) *Dermatophilus dermatonomus*  
 (B) *Dermatophilus pedis*  
 (C) *Dermatophilus congolensis*  
 (D) *Microsporium nanum*
94. *Compylobacter fetus* subsp. *Fetus* are :  
 (A) Aerobic  
 (B) Anaerobic  
 (C) Micro aerophilic  
 (D) Obligate anaerobic
95. Suppurative bronchopneumonia in horses :  
 (A) *Rhodococcus equi*  
 (B) *Streptococcus equi*  
 (C) *Trichophyton verrucosum*  
 (D) *Histoplasma capsulatum*
96. Atrophic rhinitis in pigs :  
 (A) *Pasteurella multocida*  
 (B) *Histoplasma capsulatum*  
 (C) *Blastomyces dermatitidis*  
 (D) *Coccidioides immitis*
97. Thrush in chicken :  
 (A) *Aspergillus fumigatus*  
 (B) *Trichophyton verrucosum*  
 (C) *Candida albicans*  
 (D) *Absidia corymbifera*
98. Heartwater is caused by :  
 (A) *Coxiella burnetii*  
 (B) *Cowdria ruminantium*  
 (C) *Rickettsia typhi*  
 (D) *Ehrlichia bovis*
99. Defined glycocalyx is :  
 (A) Capsule  
 (B) Slime layer  
 (C) Endospore  
 (D) Cell wall
100. All the members of family Enterobacteriaceae are :  
 (A) Strict aerobic  
 (B) Aerobic and facultative anaerobe  
 (C) Anaerobic  
 (D) Capsulated

101. The synonym for pseudorabies :  
 (A) Duck plague  
 (B) SV-40  
 (C) Epidemic tremor  
 (D) Mad itch
102. Rabies virus is non-cytopathogenic because :  
 (A) Virus do not shut down host cell protein and nucleic acid synthesis  
 (B) Virus shut down host cell protein and nucleic acid synthesis  
 (C) Virus shut down host cell nucleic acid synthesis only  
 (D) Virus shut down host cell protein synthesis only
103. Cap snatching phenomenon is seen in :  
 (A) Rhabdoviridae  
 (B) Picornaviridae  
 (C) Orthomyoviridae  
 (D) Reoviridae
104. The retroviruses multiply by using :  
 (A) Reverse transcriptase  
 (B) Restriction enzyme  
 (C) RNA polymerase  
 (D) Taq DNA polymerase
105. VIA antigen is produced during the infectious cycle of :  
 (A) Poxviridae  
 (B) Parvoviridae  
 (C) Picornaviridae  
 (D) Orthomyoviridae
106. Foot and Mouth disease virus is inactivated in :  
 (A) pH below 6.5 and pH above 11  
 (B) pH 7  
 (C) Temperature minus 20°C  
 (D) Temperature below minus 20°C
107. The virus of the following RNA families has (–) sense except :  
 (A) Coronaviridae  
 (B) Orthomyxoviridae  
 (C) Bunyaviridae  
 (D) Arenaviridae
108. Newcastle disease virus can be identified by :  
 (A) Haemagglutination  
 (B) Haemadsorption  
 (C) Haemagglutination inhibition  
 (D) Embryo inoculation
109. Blue tongue virus can remain infective for many years in blood preserved in :  
 (A) Sodium citrate  
 (B) Alsevers solution  
 (C) 50% phosphate buffered glycerine  
 (D) Heparin

110. *Peste des petits ruminants* virus has :
- (A) Both haemagglutinin and neuraminidase
  - (B) Only haemagglutinin but no neuraminidase
  - (C) Only neuraminidase but no haemagglutinin
  - (D) Neither haemagglutinin nor neuraminidase
111. Swine fever virus enhances the CPE of Newcastle disease virus in cell cultures of :
- (A) Pig kidney
  - (B) Pig adrenal
  - (C) Pig testis
  - (D) Pig thyroid
112. The DNA virus that replicate in the cytoplasm with virion associated transcriptase :
- (A) SV40
  - (B) African swine fever
  - (C) Poxvirus
  - (D) Marek's virus
113. All pathogenic *Brucella* species are oxidase positive except :
- (A) *Brucella canis*
  - (B) *Brucella melitensis*
  - (C) *Brusella ovis*
  - (D) *Brucella abortus*
114. Streptococcus is :
- (A) Gram positive, non-motile and non-sporing
  - (B) Gram negative, non-motile and non-sporing
  - (C) Gram positive, motile and non-sporing
  - (D) Gram positive, motile and sporing
115. *Clostridium chauvoei* changes cooked meat medium to :
- (A) Colour of meat changes to pink with soar odour
  - (B) Colour of meat changes to black with no odour
  - (C) Colour of meat changes to pink with no odour
  - (D) No changes seen
116. *Clostridium perfringens* ferments litmus milk and produce :
- (A) Stormy clot reaction
  - (B) No changes
  - (C) Only clot formation
  - (D) Large amount of gas produced
117. Epizootic lymphangitis :
- (A) A disease of horses caused by *Histoplasma capsulatum* var *farcinosum*
  - (B) A disease of sheep caused by *Histoplasma capsulatum* var *farcinosum*
  - (C) Not a disease of horses
  - (D) A disease of sheep caused by *Corynebacterium pseudo-tuberculosis*

118. In contrast to corynebacteria, *Rhodococcus equi* is :

- (A) They are non-motile, non-fermentative, non-sporulative and do not possess metachromatic granules
- (B) They are non-motile, fermentative, non-sporulative and possess metachromatic granules
- (C) They are motile, non-fermentative, sporulative and do not possess metachromatic granules
- (D) They are non-motile, fermentative, sporulative and possess metachromatic granules

119. Type 1 fimbriae :

- (A) Fimbriae in *Enterobacteriaceae* which bind specifically to mannose
- (B) A specialized pilus that binds mating prokaryotes
- (C) Filamentous proteins on the surface of bacterial cells that may behave as adhesions
- (D) A distinct cell wall component of the outer membrane of Gram-negative bacteria

120. *Actinomyces bovis* is a :

- (A) Gram negative, non-acid fast, rod shaped with branching
- (B) Gram negative, non-acid fast, pleomorphic organism

- (C) Gram positive, non-acid fast, rod shaped with branching
- (D) Gram positive, non-acid fast, pleomorphic organism

121. PPR is a :

- (A) List A disease of OIE
- (B) List C disease of OIE
- (C) List B disease of OIE
- (D) Not listed in OIE

122. Name the two avian viruses listed in List A of OIE :

- (A) Fowlpox and IBD viruses
- (B) IBD and Marek's disease viruses
- (C) Adenovirus 4 and Duck plaque viruses
- (D) Newcastle disease and Avian influenza viruses

123. Baltimore classification system is :

- (A) Based on obligatory relationship between viral genome and its mRNA
- (B) Based on the properties they share among themselves
- (C) Based on both Baltimore and classical system
- (D) Based on properties of the cells or organisms they infect

124. Foot and Mouth virus is inactivated by :

- (A) 2% Sodium hydroxide
- (B) Iodophores
- (C) Quaternary ammonium compounds
- (D) Hypochlorite

125. African swine fever virus is in :
- (A) Iridoviridae
  - (B) Asfaviridae
  - (C) Reoviridae
  - (D) Togaviridae
126. Bovine ephemeral fever virus is a :
- (A) Single stranded negative sense linear RNA virus belonging to the family Rhabdoviridae
  - (B) Single stranded negative sense segmented RNA virus belonging to the family Rhabdoviridae
  - (C) Single stranded positive sense linear RNA virus belonging to the family Rhabdoviridae
  - (D) Single stranded negative sense linear RNA virus belonging to the family Coronaviridae
127. First animal virus – Foot and Mouth disease virus :
- (A) Loeffler and Paul Frosch
  - (B) Dimitrii Ivanowsky
  - (C) Louis Pasteur
  - (D) Edward Jenner
128. Plus stranded RNA :
- (A) RNA is same sense as mRNA
  - (B) RNA is negative sense
  - (C) RNA is double stranded
  - (D) Needs RNA dependent RNA polymerase
129. Outer structure of virus is known as :
- (A) Capsid
  - (B) Envelope
  - (C) Capsule
  - (D) Spore
130. Viruses normally cultivated in which one the following systems ?
- (A) Nutrient agar
  - (B) Nutrient broth
  - (C) Lab animals, embryonated eggs and cell culture system
  - (D) Eosin methylene blue agar
131. Temperature and time necessary to sterilize a substance in the autoclave is :
- (A) 72 degrees / 30 minutes
  - (B) 121 degrees / 15 minutes
  - (C) 160 degrees / 2 hours
  - (D) 100 degrees / 60 minutes
132. Which of the following is not one of Koch's postulates ?
- (A) The organism is regularly found in lesions of the disease
  - (B) The organism can be Isolated from diseased tissues in pure culture on artificial media
  - (C) Inoculation of this pure culture produces a similar disease in experimental animals
  - (D) Treatment of the disease with a broad spectrum oral antimicrobial dependably eradicates the organism and cures the disease

133. Characteristics of a bacterial capsule include :
- (A) All bacteria have one
  - (B) It is composed of peptidoglycan
  - (C) It is an important mechanism for protecting a bacteria against ingestion by PMNs
  - (D) It is what causes the gram stain reaction
134. An important characteristic of mycobacteria is that they are :
- (A) Gram negative
  - (B) Rapid growing (doubling time 15 minutes)
  - (C) Acid fast
  - (D) Alpha hemolytic
135. Rabies reaches the central nervous system by :
- (A) Hematogenous distribution
  - (B) Neurotropic spread
  - (C) Entry into brain within macrophages
  - (D) Both (A) and (B)
136. The compound microscope consists of two lenses known as :
- (A) Objective and Eyepiece
  - (B) Objective and Condenser
  - (C) Eyepiece and Occular
  - (D) None of the above
137. In which microscope the object appears dark and the microscopic field is brightly illuminated ?
- (A) Dark field
  - (B) Bright field
  - (C) Both (A) and (B)
  - (D) None of the above
138. Which one of the following is/are the fluorochrome ?
- (A) Rose Bengal
  - (B) Acridine Orange
  - (C) Both (A) and (B)
  - (D) None of the above
139. Name the organisms used as indices of fecal pollution in water and food :
- (A) *Only E. Coli*
  - (B) *E coli and Cl. perfringen*
  - (C) *E. Coli and Strept. faecalis*
  - (D) *Cl.perfringens and Strept. faecalis*
140. For enumeration of coliform organism the method used :
- (A) IMViC reaction
  - (B) MPN
  - (C) Standard plate count
  - (D) None of the above
141. Antibodies are secreted from :
- (A) Plasma cell
  - (B) Macrophages
  - (C) T-lymphocytes
  - (D) Eosinophils



142. Immunoglobulin consists of :

- (A) 2 light, 2 heavy chain
- (B) 1 heavy, 2 light chains
- (C) 1 light, 1 heavy chain
- (D) 3 light, 1 heavy chain

143. Active immunity is induced by :

- (A) Infection
- (B) Placental transfer of antibodies
- (C) Injection of antibodies
- (D) All of the above

144. The father of immunization was :

- (A) Louis Pasteur
- (B) Edward Jenner
- (C) Salk
- (D) Sabin

145. The smallest known viruses belongs to the family :

- (A) Iridoviridae
- (B) Circoviridae
- (C) Picornaviridae
- (D) Herpesviridae

146. Johne's disease is caused by :

- (A) *Mycobacterium avium subsp. paratuberculosis*
- (B) *Mycobacterium paratuberculosis*
- (C) *Mycobacterium tuberculosis*
- (D) *Mycobacterium phlei*

147. Gram positive rods :

- (A) *Haemophilus*
- (B) *Actinobacillus*
- (C) *Pasteruella*
- (D) *Listeria*

148. Fowl typhoid is caused by :

- (A) *Pasteurella multocida*
- (B) *Salmonella gallinarum*
- (C) *Salmonella typhimurium*
- (D) *Salmonella typhi*

149. Virus without single stranded RNA is :

- (A) Aphovirus
- (B) Blue tongue virus
- (C) Coronavirus
- (D) Paramyxovirus

150. Straus test is performed in :

- (A) Rabbits
- (B) Male guinea pig
- (C) Female guinea pig
- (D) Mice

151. Inverted fir tree in gelatin medium is by:

- (A) *Clostridium welchi*
- (B) *Brucella abortus*
- (C) *Clostridium ovis*
- (D) *Bacillus anthracis*

152. Acid fastness of *Mycobacterium* spp., is due to :

- (A) Capsule
- (B) Mycolic acid
- (C) Lipothecoic acid
- (D) Pseudo membrane

153. The non-coding sequence of DNA are called :

- (A) Exon
- (B) Replicon
- (C) Amplicon
- (D) Intron

154. Anthrax vaccination done with :

- (A) Killed anthrax vaccine
- (B) Live anthrax vaccine
- (C) Anthrax spore vaccine
- (D) None of the above

155. Lumpy Law :

- (A) *Actinobacillus ligniersii*
- (B) *Actinomyces bovis*
- (C) *Bacillus anthracis*
- (D) None of the above

156. In hybridization, the single stranded DNA, is joined with :

- (A) Lagging strand
- (B) Leading strand
- (C) Complementary strand
- (D) Sense strand

157. *Spherophorus necrophorus* causes :

- (A) Foot-rot
- (B) Call Diptheria
- (C) Braxy
- (D) None of the above

158. Duck plague is the common disease of ducks :

- (A) Yes
- (B) No
- (C) Both (A) and (B)
- (D) None of the above

159. Pulpy kidney :

- (A) *Clostridium welchi* type D
- (B) *Clostridium welchi* type E
- (C) *Clostridium welchi* type C
- (D) None of the above

160. Largest DNA virus is :

- (A) Herpes viridae
- (B) Adeno viridae
- (C) Pox viridae
- (D) None of the above

161. Allergy is :

- (A) Ig E
- (B) Ig A
- (C) Ig M
- (D) Ig G

162. Antigenic shift :

- (A) Pox virus
- (B) Herpes virus
- (C) Orthomyxo virus
- (D) Retrovirus

163. Most abundant immunoglobulin is :

- (A) Ig M
- (B) Ig G
- (C) Ig E
- (D) Ig A

164. The dsRNA genome of rotaviruses has :

- (A) 10 segments
- (B) 11 segments
- (C) 12 segments
- (D) None of the above

165. Introduction of foreign DNA into bacterial cell :

- (A) Translocation
- (B) Transfection
- (C) Transformation
- (D) Transposition

166. Erythritol is concerned with :

- (A) *Brucella abortus*
- (B) *Bacillus anthracis*
- (C) *Cl. welchii*
- (D) None of the above

167. First immunoglobulin to be secreted in the primary immune response :

- (A) Ig M
- (B) Ig G
- (C) Ig E
- (D) Ig A

168. Stop codon in RNA is :

- (A) AAG
- (B) UAA
- (C) AUC
- (D) ATT

169. Phagocytosis :

- (A) Ele Metchnikoff
- (B) Karry Muliys
- (C) William Harvey
- (D) Wilson

170. Psedo — glanders is :

- (A) *Corynebacterium pyogenes*
- (B) *Histoplasma farciminosum*
- (C) *Corynebacterium pseudo-tuberculosis*
- (D) None of the above

171. Fowl Favus :

- (A) *Trichophyton gallinae*
- (B) *Salmonella gallinarum*
- (C) *Rhinosporidium seeberi*
- (D) None of the above

172. Conversion of mRNA to protein is :

- (A) Transformation
- (B) Transduction
- (C) Transcription
- (D) Translation

173. Fungi can grow well in :

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

174. What is an Open Reading Frame ?

- (A) A segment that starts with a start codon and goes until the next stop codon
- (B) A partial coding region with no start or stop codon
- (C) A partial coding region with no stop codon
- (D) A coding region with a gap in it

175. Woolsorters disease is caused by :

- (A) *Bacillus anthracis*
- (B) *Bacillus subtilis*
- (C) *Brucella canis*
- (D) All of the above

176. Morbilli viruses :

- (A) Phocine distemper virus
- (B) Pest des petits ruminants virus

(C) Canine distemper virus

(D) All of the above

177. The stain used in Mac Fardey reaction is :

- (A) Polychrome methylene blue
- (B) Indian ink
- (C) Carbol fuchsin
- (D) Sudan black

178. Acoli's test is a :

- (A) Agglutination test
- (B) Thermo precipitation test
- (C) Growth of organism on media incorporated with penicillin
- (D) Demonstration of capsule

179. The bacteria that prefers 3-10% carbon dioxide are :

- (A) Acidophiles
- (B) Alkalophiles
- (C) Thermophiles
- (D) Capnophiles

180. In log phase, the growth rate of bacteria is :

- (A) Minimum
- (B) Maximum
- (C) Average
- (D) Nil

181. Bacteria that move in response to chemical agents are called as :
- (A) Phototaxis
  - (B) Chemotaxis
  - (C) Swarming
  - (D) All of the above
182. Long chain of cocci that results when cells adhere after repeated divisions in one plane are called as :
- (A) Diplococci
  - (B) Palisade
  - (C) Streptococci
  - (D) None of above
183. The nomenclature and classification of a virus has been approved by :
- (A) International Committee on Taxonomy of Viruses
  - (B) International Committee on Nomenclature of Viruses
  - (C) World Animal Health Organisation
  - (D) World Health Organisation
184. Bacteria having no flagella are known as :
- (A) Monotrichous
  - (B) Atrichous
  - (C) Amphitrichous
  - (D) Peritrichous
185. Purified Protein Derivative (PPD) on Mycobacteria injected in tuberculin testing inducing hard or oedematous swelling is a characteristic of :
- (A) Type I hypersensitivity
  - (B) Type II hypersensitivity
  - (C) Type III hypersensitivity
  - (D) Type IV hypersensitivity
186. Which of the following is/are primary lymphoid organ(s) ?
- (A) Thymus
  - (B) Spleen
  - (C) Bone marrow
  - (D) Both (A) and (C)
187. Which of the following is a primary binding serological test ?
- (A) ELISA
  - (B) HI
  - (C) CFT
  - (D) VNT
188. T-helper cells possess :
- (A) CD4 surface marker
  - (B) CD8 surface marker
  - (C) Both of the above
  - (D) None of the above
189. Memory cells are produced :
- (A) In active immunity
  - (B) In passive immunity
  - (C) Both (A) and (B)
  - (D) None of the above

190. In passive immunity :

- (A) Immune system is not activated for the production of antibody
- (B) Body gets readymade antibody prepared in other host
- (C) Both (A) and (B)
- (D) None of the above

191. B cell receptors :

- (A) Are like immunoglobulin
- (B) Recognizes specific antigen
- (C) Gives rise to antibody
- (D) All of the above

192. Duration of protection is more in :

- (A) Active immunity
- (B) Passive immunity
- (C) Both (A) and (B)
- (D) None of the above

193. The bursal equivalent organ in mammal is :

- (A) GALT
- (B) Bone marrow
- (C) Both (A) and (B)
- (D) None of the above

194. Name the discoverer of complement :

- (A) Bordet
- (B) Bruce Glick
- (C) Baruj Benacerraf
- (D) None of the above

195. Attenuation of the organism can be achieved by :

- (A) By passing the organism through unnatural host
- (B) By heat treatment
- (C) Aging of the culture
- (D) By chemical treatment

196. Memory cells are produced :

- (A) In active immunity
- (B) In passive immunity
- (C) Both (A) and (B)
- (D) None of the above

197. All act as antigen presenting cells except :

- (A) Macrophages
- (B) Dendritic cells
- (C) B Cells
- (D) T Cells

198. All the statements for Bursa of Fabricius are correct, except :

- (A) It is responsible for humoral immunity
- (B) It is responsible for B cell production
- (C) It is responsible for T cell production
- (D) It is found in birds only

199. BCG vaccine is prepared from :

- (A) *Mycobacterium avium*
- (B) *Mycobacterium phlei*
- (C) *Mycobacterium leprae*
- (D) *Mycobacterium bovis*

200. *Rhodococcus equi* causes in foals :

- (A) Arthritis
- (B) Cirrhosis of liver
- (C) Bronchopneumonia
- (D) None of the above

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