

Exam Date - 25-08-21

पुस्तिका में पृष्ठों की संख्या-32
No. of Pages in Booklet -32
पुस्तिका में प्रश्नों की संख्या-180
No. of Questions in Booklet -180

BSAP-22

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प्रश्न पुस्तिका संख्या /
Question Booklet No.

Paper Code : 02

SUBJECT : Microbiology
(Broad Speciality)

समय: 3.00 घण्टे
Time: 3.00 Hours

अधिकतम अंक: 180
Maximum Marks: 180

प्रश्न-पत्र पुस्तिका के पेपर सील/ पॉलिथिन बैग को खोलने पर परीक्षार्थी यह सुनिश्चित कर लें कि प्रश्न पुस्तिका संख्या तथा ओ.एम.आर. उत्तर-पत्रक पर अंकित बारकोड समान हैं। इसमें कोई भिन्नता हो तो परीक्षार्थी वीक्षक से दूसरा प्रश्न-पत्र प्राप्त कर लें। ऐसा सुनिश्चित करने की जिम्मेदारी अभ्यर्थी की होगी।

On opening the paper seal/ polythene bag of the Question Booklet the candidate should ensure that Question Booklet Number and Barcode of OMR Answer Sheet must be same. If there is any difference, candidate must obtain another Question Booklet from Invigilator. Candidate himself shall be responsible for ensuring this.

परीक्षार्थियों के लिए निर्देश

1. सभी प्रश्नों के उत्तर दीजिए।
2. सभी प्रश्नों के अंक समान हैं।
3. प्रत्येक प्रश्न का केवल एक ही उत्तर दीजिए।
4. एक से अधिक उत्तर देने की दशा में प्रश्न के उत्तर को गलत माना जाएगा।
5. प्रत्येक प्रश्न के चार वैकल्पिक उत्तर दिये गये हैं, जिन्हें क्रमशः 1, 2, 3, 4 अंकित किया गया है। अभ्यर्थी को सही उत्तर निर्दिष्ट करते हुए उनमें से केवल एक गोले अथवा बबल को उत्तर-पत्रक पर नीले बॉल प्वाइंट पेन से गहरा करना है।
6. OMR उत्तर-पत्रक इस परीक्षा पुस्तिका के अन्दर रखा है। जब आपको परीक्षा पुस्तिका खोलने को कहा जाए, तो उत्तर-पत्रक निकाल कर ध्यान से केवल नीले बॉल प्वाइंट पेन से विवरण भरें।
7. प्रत्येक गलत उत्तर के लिए प्रश्न अंक का 1/3 भाग काटा जायेगा। गलत उत्तर से तात्पर्य अशुद्ध उत्तर अथवा किसी भी प्रश्न के एक से अधिक उत्तर से है। किसी भी प्रश्न से संबंधित गोले या बबल को खाली छोड़ना गलत उत्तर नहीं माना जायेगा।
8. मोबाइल फोन अथवा इलेक्ट्रॉनिक यंत्र का परीक्षा हॉल में प्रयोग पूर्णतया वर्जित है। यदि किसी अभ्यर्थी के पास ऐसी कोई वर्जित सामग्री मिलती है, तो उसके विरुद्ध आयोग द्वारा नियमानुसार कार्यवाही की जायेगी।
9. कृपया अपना रोल नम्बर ओ.एम.आर. पत्रक पर सावधानी पूर्वक सही भरें। गलत अथवा अपूर्ण रोल नम्बर भरने पर 5 अंक कुल प्राप्तांकों में से काटे जा सकते हैं।
10. यदि किसी प्रश्न में किसी प्रकार की कोई मुद्रण या तथ्यात्मक प्रकार की त्रुटि हो, तो प्रश्न के हिन्दी तथा अंग्रेजी रूपान्तरों में से अंग्रेजी रूपान्तर मान्य होगा।

चेतावनी : अगर कोई अभ्यर्थी नकल करते पकड़ा जाता है या उसके पास से कोई अनधिकृत सामग्री पाई जाती है, तो उस अभ्यर्थी के विरुद्ध पुलिस में प्राथमिकी दर्ज कराते हुए विविध नियमों-प्राक्धानों के तहत कार्यवाही की जाएगी। साथ ही विभाग ऐसे अभ्यर्थी को भविष्य में होने वाली विभाग की समस्त परीक्षाओं से विवर्जित कर सकता है।

INSTRUCTIONS FOR CANDIDATES

1. Answer all questions.
2. All questions carry equal marks.
3. Only one answer is to be given for each question.
4. If more than one answers are marked, it would be treated as wrong answer.
5. Each question has four alternative responses marked serially as 1, 2, 3, 4. You have to darken only one circle or bubble indicating the correct answer on the Answer Sheet using BLUE BALL POINT PEN.
6. The OMR Answer Sheet is inside this Test Booklet. When you are directed to open the Test Booklet, take out the Answer Sheet and fill in the particulars carefully with blue ball point pen only.
7. 1/3 part of the mark(s) of each question will be deducted for each wrong answer. A wrong answer means an incorrect answer or more than one answers for any question. Leaving all the relevant circles or bubbles of any question blank will not be considered as wrong answer.
8. Mobile Phone or any other electronic gadget in the examination hall is strictly prohibited. A candidate found with any of such objectionable material with him/her will be strictly dealt as per rules.
9. Please correctly fill your Roll Number in O.M.R. Sheet. 5 Marks can be deducted for filling wrong or incomplete Roll Number.
10. If there is any sort of ambiguity/mistake either of printing or factual nature, then out of Hindi and English Version of the question, the English Version will be treated as standard.

Warning : If a candidate is found copying or if any unauthorized material is found in his/her possession, F.I.R. would be lodged against him/her in the Police Station and he/she would liable to be prosecuted. Department may also debar him/her permanently from all future examinations.

**इस परीक्षा पुस्तिका को तब तक न खोलें जब तक कहा न जाए।
Do not open this Test Booklet until you are asked to do so.**

1. Adherence of *Entamoeba histolytica* to colonic mucosa is mediated by -
 - (1) Collagen
 - (2) Fibronectin
 - (3) Histolysin
 - (4) Lectin
2. Langerhans cells in skin are -
 - (1) Antigen presenting cells
 - (2) Pigment producing cells
 - (3) Keratin synthesising cells
 - (4) Sensory neurons
3. Phylum zygomycota includes all, except -
 - (1) Epidermophyton
 - (2) Mucor
 - (3) Syncephalastrum
 - (4) Rhizopus
4. Neurological complication following rabies vaccine is common with -
 - (1) HDCS Vaccine
 - (2) Chick embryo
 - (3) Sample Vaccine
 - (4) Duck egg Vaccine
5. Which of the following is the integrated genetic material of a virus?
 - (1) Virus like particle
 - (2) Prion
 - (3) Provirus
 - (4) Viroid
6. Which statement is incorrect about Zygomycetes infection?
 - (1) Is an opportunistic infection
 - (2) Are found on decaying vegetable matter
 - (3) Causes vascular invasion & rapidly produce thrombosis & necrosis of tissue
 - (4) Produce macroconidia
7. Which of the following virus undergoes zoonotic transmission?
 - (1) Rhinovirus
 - (2) HIV
 - (3) HBV
 - (4) Rhabdovirus

8. Which of the following is only yeast?
- (1) Geotrichum
 - (2) Trichosporon
 - (3) Rhodotorula
 - (4) Candida
9. Which of the following does not cause invasive diarrhoea?
- (1) Salmonella
 - (2) Aeromonas
 - (3) Shigella
 - (4) Bacillus cereus
10. Orientia tsutsugamushi causes -
- (1) RMSF
 - (2) Scrub typhus
 - (3) Epidemic typhus
 - (4) Rickettsial pox
11. Which fungus is lipophilic?
- (1) Candida
 - (2) Malassezia furfur
 - (3) Histoplasma
 - (4) Cryptococcus
12. Treatment of choice for sputum positive pulmonary tuberculosis detected in 1st trimester of pregnancy -
- (1) Defer till 2nd trimester
 - (2) Start category I immediately
 - (3) Start category II immediately
 - (4) Start category III immediately
13. Chagas' disease is caused by -
- (1) Trypanosoma cruzi
 - (2) Leishmania donovani
 - (3) Trypanosoma brucei
 - (4) Leishmania braziliensis
14. Which of the following might not be the effective control measures in reducing the hospital acquired infection?
- (1) Testing of sterilization technique
 - (2) More use of antibiotics for infection
 - (3) Proper attention to routine hygiene practices
 - (4) Routine sampling for bacteriology and sensitivity tracing

15. Which of the following was the first parainfluenza virus isolated?
- (1) PIV – 4
 - (2) Simian virus
 - (3) PIV – 2
 - (4) Sendai Virus
16. Valley fever or desert rheumatism is caused by -
- (1) Sporothrix
 - (2) Coccidioides
 - (3) Phialophora
 - (4) Histoplasma
17. Loeffler's syndrome is caused by -
- (1) Lung fluke
 - (2) *Ascaris lumbricoides*
 - (3) *Necator americanus*
 - (4) *Trichuri trichiura*
18. Which organism forms pink/red non-diffusible pigment on Nutrient Agar?
- (1) *Pseudomonas pyocyaneus*
 - (2) *Acinetobacter baumannii*
 - (3) *Serratia marcescens*
 - (4) *Helicobacter pylori*
19. Darling disease is caused by -
- (1) Histoplasma
 - (2) Candida
 - (3) Cryptococcus
 - (4) Rhizopus
20. Which of the following is not a characteristic of viruses?
- (1) Contain only one type of nucleic acid, either DNA or RNA
 - (2) Multiply by binary fission
 - (3) Are obligate intracellular parasite
 - (4) Dependent on host cell for replication
21. Detection of histidine rich protein – 2 antigen is a sensitive, specific diagnostic test for -
- (1) *Plasmodium vivax*
 - (2) *Plasmodium malariae*
 - (3) *Plasmodium falciparum*
 - (4) *Babesia microti*

22. All are negative strand RNA viruses, except -
- (1) Rhabdovirus
 - (2) Poliovirus
 - (3) Orthomyxovirus
 - (4) Paramyxovirus
23. Beta interferon is produced because of -
- (1) Bacteria infected cells
 - (2) Virus infected cells
 - (3) Mycoplasma infected cells
 - (4) Parasitic infected cells
24. Waste (sharps including metal needles), syringes with fixed needles, scalpels, blades etc. should be segregated in -
- (1) Yellow plastic bags
 - (2) Red coloured non chlorinated plastic bags
 - (3) Puncture proof, leak proof, translucent tamper proof containers
 - (4) Autoclave safe plastic bags
25. Most frequent cause of scalded skin syndrome is -
- (1) Staphylococci
 - (2) Pneumococci
 - (3) Enterococci
 - (4) Meningococci
26. Hereditary angioneurotic edema is due to -
- (1) Deficiency of C1 inhibitor
 - (2) Deficiency of NADPH oxidase
 - (3) Deficiency of MPO
 - (4) Deficiency of Properdin
27. Triad of congenital toxoplasmosis is all, except -
- (1) Intracranial calcification
 - (2) Hydrocephalus
 - (3) Chorioretinitis
 - (4) Convulsion
28. Enterobiasis causes all, except -
- (1) Pruritus perianii
 - (2) Salpingitis
 - (3) Nocturnal enuresis
 - (4) Protein energy malnutrition

29. Respiratory therapy equipment, endoscopes and haemodialysis equipment are disinfected by -
- (1) Formalin
 - (2) Glutaraldehyde
 - (3) Iodine
 - (4) Ethanol
30. Chyluria is seen in -
- (1) Malayan filaria
 - (2) Bancroftian filaria
 - (3) Onchocerciasis
 - (4) Loa loa
31. Segmented genome is found in all, except -
- (1) Bunyaviridae
 - (2) Rhabdovirus
 - (3) Orthomyxoviridae
 - (4) Reoviridae
32. Transport medium for gonococcus -
- (1) Pike's medium
 - (2) Stuart medium
 - (3) VR medium
 - (4) Thayer-Martin medium
33. Which statement is incorrect?
- (1) Sedimentation coefficient of IgM is 19
 - (2) Half-life of IgG is 5 days
 - (3) 80% of IgM is intravascular
 - (4) IgG can cross the placenta
34. Lymphogranuloma venereum is caused by -
- (1) L₁, L₂, L₃ serovars of chlamydia trachomatis
 - (2) Serovar A, B, C of chlamydia trachomatis
 - (3) Chlamydia psittaci
 - (4) Chlamydia pneumoniae

35. Variable portion of antibody molecule is -
- (1) C- terminal
 - (2) N- terminal
 - (3) CHO moiety
 - (4) None
36. Treatment of Toxoplasmosis is -
- (1) Trimethoprim & Sulfamethoxazole
 - (2) Sulfadiazine & Pyrimethamine
 - (3) Chloroquine
 - (4) Artemisinin
37. Nomenclature of parasite is done in the following manner -
- (1) Ascaris Lumbricoides, linnaeus 1758
 - (2) Ascaris lumbricoides Linnaeus, 1758
 - (3) ascaris lumbricoides 1758 linnaeus
 - (4) Ascaris 1758 linnaeus
38. Bombay blood group has absence of -
- (1) A antigen
 - (2) A and B antigen
 - (3) A, B and H antigen
 - (4) H antigen alone
39. Which parasite doesn't cause anaemia?
- (1) Leishmania tropica
 - (2) Necator americanus
 - (3) Plasmodium species
 - (4) Ancylostoma duodenale
40. Which of the following statement is incorrect?
- (1) Limit of resolution with unaided eye is 0.2 mm
 - (2) To be resolved, an object should have same size as the wavelength of light used
 - (3) Degree of enlargement of image depends on limit of resolution
 - (4) Resolving power = $\frac{\text{wavelength of light used}}{2 \times \text{numerical aperture}}$
(approx.)
41. Non gonococcal urethritis is not seen in infection with -
- (1) Chlamydia trachomatis
 - (2) Trichomonas vaginalis
 - (3) Candida albicans
 - (4) Escherichia coli

42. Which is the dangerous hepatitis virus during pregnancy?
- (1) Hepatitis A
 - (2) Hepatitis B
 - (3) Hepatitis D
 - (4) Hepatitis E
43. Niacin & Nitrate reduction tests are positive in -
- (1) *M. kansasii*
 - (2) *M. tuberculosis*
 - (3) *M. bovis*
 - (4) *M. simiae*
44. Which statement is incorrect about superficial or cutaneous mycoses?
- (1) Infect non-keratinized tissues
 - (2) Infect hair, skin or nail
 - (3) Are dermatophytes
 - (4) Agent of Tinea nigra
45. Property of elution is found in -
- (1) Myxovirus
 - (2) Togavirus
 - (3) Parvovirus
 - (4) Adenovirus
46. Which parasite doesn't enter the body through skin?
- (1) *Ancylostoma duodenale*
 - (2) *Strongyloides stercoralis*
 - (3) *Necator americanus*
 - (4) *Trichinella spiralis*
47. Hantavirus belongs to -
- (1) Family Bunyaviridae
 - (2) Togavirus family
 - (3) Flaviviridae
 - (4) Reoviridae
48. Prions are -
- (1) Infectious proteins
 - (2) Made up of virus particles
 - (3) It is a nuclear material
 - (4) Can be cultured

49. A rapidly growing mold produces powdery, blue – green colony & microscopically shows hyaline, septate hyphae with dichotomy. Tip of conidiophore has flask shaped vesicle with single row of phialides covering upper half or two-third of vesicle. The fungus is -
- (1) *Aspergillus flavus*
 - (2) *Aspergillus terreus*
 - (3) *Aspergillus fumigatus*
 - (4) *Penicillium*
50. All statements about *Pseudomonas aeruginosa* are true, except -
- (1) Pyocyanin is produced only by *pseudomonas aeruginosa*.
 - (2) Clinical isolates of *pseudomonas aeruginosa* are piliated.
 - (3) It is not susceptible to silver sulphonamide compounds.
 - (4) It is the most common cause of infection in burns.
51. Hide porter's disease is caused by -
- (1) *Corynebacterium*
 - (2) *Bacillus anthracis*
 - (3) *Clostridium septicum*
 - (4) *Bacillus subtilis*
52. A fungus which causes chronic, granulomatous disease with development of friable polyps in the nose is -
- (1) *Cryptococcus neoformans*
 - (2) *Cladosporium*
 - (3) *Rhinosporidium seeberi*
 - (4) *Penicillium marneffeii*
53. How many codon (triplet codes) words can be formed by the four bases (A, C, G, T) in DNA in various combinations?
- (1) 32
 - (2) 16
 - (3) 64
 - (4) 256
54. Which of the following dimorphic fungi form spherule instead of yeast cells in tissue phase?
- (1) *Histoplasma capsulatum*
 - (2) *Blastomyces dermatitidis*
 - (3) *Coccidioidomycosis*
 - (4) *Paracoccidioides brasiliensis*

55. Which statement is incorrect?
- (1) Buffers tend to resist changes in hydrogen ion conc.
 - (2) Buffers are formed by mixing a weak acid with its salt.
 - (3) Buffers are formed by mixing a strong acid with its salt.
 - (4) Buffering power of acetic acid & sodium acetate is greatest when the two are present in equimolar concentration.
56. Mycoplasma is intrinsically resistant to -
- (1) Aminoglycosides
 - (2) Ceftazidime
 - (3) Macrolides
 - (4) Doxycycline
57. Fungal DNA synthesis is inhibited by -
- (1) Flucytosine
 - (2) Amphotericin B
 - (3) Nystatin
 - (4) Azoles
58. Haemorrhagic uremic syndrome is caused by -
- (1) Verotoxigenic Escherichia coli (VTEC)
 - (2) Enteropathogenic E. coli (EPEC)
 - (3) Enterotoxigenic E. coli (ETEC)
 - (4) Enteroinvasive E. coli (EIEC)
59. Which of the following drug is used to treat genital herpes infection?
- (1) Penciclovir
 - (2) Pleconaril
 - (3) Oseltamivir
 - (4) Efavirenz
60. C – carbohydrate in Streptococcus haemolyticus (β) is important for -
- (1) Lancefield classification
 - (2) Phagocytic inhibition
 - (3) Toxin production
 - (4) Hemolysis

61. Gold standard method of diagnosis for trichomoniasis -
- (1) PCR
 - (2) Microscopy
 - (3) Giemsa stain
 - (4) Culture
62. Serotyping and serosubtyping of meningococci are based on -
- (1) Outer membrane proteins
 - (2) Endotoxin
 - (3) Capsule polysaccharide
 - (4) Transferring binding proteins
63. Reye's syndrome is a complication seen after all the following viral infections, except -
- (1) Influenza A
 - (2) Influenza B
 - (3) Varicella zoster
 - (4) Measles
64. Which organ is not a peripheral (secondary) lymphoid organ?
- (1) Thymus
 - (2) Lymph nodes
 - (3) Spleen
 - (4) Mucosa associated lymphoid tissue
65. Urease breath test is used for which organism?
- (1) Haemophilus influenzae
 - (2) Campylobacter jejuni
 - (3) Helicobacter pylori
 - (4) Ureaplasma urealyticum
66. HP body is seen in -
- (1) Chlamydia trachomatis
 - (2) Chlamydia pneumoniae
 - (3) Chlamydia psittaci
 - (4) Mycoplasma hominis
67. Treatment of choice for Vancomycin resistant Staphylococcus aureus is -
- (1) Cloxacillin
 - (2) Linezolid
 - (3) Amoxicillin-clavulanic acid
 - (4) Cephalexin

68. Which statement is incorrect about endotoxins?
- (1) Are heat stable lipopolysaccharide in the cell wall of gram negative bacteria.
 - (2) Are released on bacterial death and in part during growth.
 - (3) Are not pyrogenic.
 - (4) LPS of bacteroides species are much less toxic.
69. Virus quantification is done by -
- (1) Plaque assay
 - (2) Egg inoculation
 - (3) Hemadsorption
 - (4) Electron microscopy
70. Which of the following is generally not considered a potential danger of bioterrorism and biologic warfare?
- (1) *Bacillus anthracis*
 - (2) *Streptococcus pyogenes*
 - (3) *Chlamydia psittaci*
 - (4) *Rickettsia prowazekii*
71. Which one of these is not a basic dye?
- (1) Methylene Blue
 - (2) Methyl Violet
 - (3) Basic Fuchsin
 - (4) Sodium Eosinate
72. All are natural parasites of rodents, except -
- (1) *Leptospira*
 - (2) *Streptobacillus moniliformis*
 - (3) *Neisseria meningitidis*
 - (4) *Yersinia pestis*
73. Dienes stain is used for -
- (1) *Campylobacter*
 - (2) *Rickettsiae*
 - (3) *Helicobacter*
 - (4) *Mycoplasma*

74. Which of the following organism is not oxidase positive?
- (1) *Pasteurella multocida*
 - (2) *Acinetobacter*
 - (3) *Neisseria meningitidis*
 - (4) *Pseudomonas*
75. Which of the following poxvirus causes Milker's nodules?
- (1) Orthopoxvirus
 - (2) Yatapoxvirus
 - (3) Molluscipoxvirus
 - (4) Parapoxvirus
76. Which parasite doesn't cause malignancy?
- (1) *Schistosoma haematobium*
 - (2) *Babesia microti*
 - (3) *Fasciola hepatica*
 - (4) *Clonorchis sinensis*
77. Von Magnus phenomenon is -
- (1) Abnormal replicative cycle
 - (2) Virus with low infectivity
 - (3) Virus with high hemagglutination
 - (4) All of the above
78. Which feature is not seen in cladosporium?
- (1) Is a dematiaceous fungus
 - (2) Give rise to chains of darkly pigmented conidia
 - (3) Disjunctors
 - (4) Multicellular conidia
79. Which statement is incorrect?
- (1) Forssman antigen is a heterophile antigen.
 - (2) Forssman antigen is absent in rabbit.
 - (3) Anti Forssman antibody is prepared in rabbit.
 - (4) Weil-Felix reaction is not an heterophile reaction.
80. Disinfectant to be used prior to obtaining a blood culture or installing intravenous catheter -
- (1) Tincture of iodine 2%, followed by 70% alcohol
 - (2) 70% ethanol
 - (3) Povidone iodine
 - (4) 100% ethanol

81. All statements are true for normal flora, except -
- (1) Normal bacterial flora consist largely of commensals
 - (2) Anaerobes to aerobes ratio is 1000:1
 - (3) Synthesises Vitamin K
 - (4) Doesn't prevent colonisation with pathogenic microbes
82. In which phase β -lactam antibiotics are most effective?
- (1) Lag phase
 - (2) Log phase
 - (3) Stationary phase
 - (4) Phase of decline
83. Which of the following is choice of antibiotic in bedridden patient in ICU with CAUTI and VAP in India?
- (1) Amoxicillin
 - (2) Betalactams/ beta lactamase inhibitors
 - (3) Third generation cephalosporins
 - (4) Second generation cephalosporins
84. Newcastle virus belongs to family -
- (1) Paramyxovirus
 - (2) Calicivirus
 - (3) Flavivirus
 - (4) Filovirus
85. Man is both intermediate & definitive host for -
- (1) Taenia solium
 - (2) Taenia saginata
 - (3) Diphyllbothrium latum
 - (4) Echinococcus granulosus
86. Virus infected cells are killed by -
- (1) N K cells
 - (2) Plasma cells
 - (3) B-cells
 - (4) None

87. By which route vaccines are not administered?
- (1) Intradermal
 - (2) Intravenous
 - (3) Intramuscular
 - (4) Oral
88. Function of gp120 HIV envelope is -
- (1) Transfection
 - (2) Cell penetration
 - (3) Attachment of CD4 receptor
 - (4) Integration of nucleic acid
89. IgE binds to which cell?
- (1) T cells
 - (2) B cells
 - (3) Mast cells
 - (4) N K cells
90. HLA – I is present on -
- (1) All nucleated cells
 - (2) Only on cells of immune system
 - (3) Only on B cells
 - (4) Only on T cells
91. Match the following –
- | | |
|--------------------------|-----------------------|
| (a) Genus Trichophyton | (1) Hair & Skin |
| (b) Genus Microsporum | (2) Hair, Skin & Nail |
| (c) Genus Epidermophyton | (3) Skin & Nail |
-
- | | a | b | c |
|-----|---|---|---|
| (1) | 2 | 1 | 3 |
| (2) | 1 | 2 | 3 |
| (3) | 3 | 2 | 1 |
| (4) | 3 | 1 | 2 |
92. In which fungus rhizoids arise just below Sporangiphore?
- (1) Mucor
 - (2) Absidia
 - (3) Rhizopus
 - (4) Syncephalastrum

93. Emmons modified Sabouraud dextrose agar medium has one of the following pH -
- (1) 5.6
 - (2) 6.8
 - (3) 7.4
 - (4) 8.2
94. A person consumed raw fish daily for two weeks -
After few weeks on examination he was found anaemic & his Vitamin B₁₂ level was below normal.
Which of the following is the most likely cause of his Vitamin B₁₂ deficiency anaemia?
- (1) Clonorchis sinensis
 - (2) Diphyllbothrium latum
 - (3) Fasciola hepatica
 - (4) Schistosoma japonicum
95. Which of the following statement is incorrect?
- (1) In the classification of bacteria, the properties of a population are studied & not of an individual.
 - (2) A clone is a population derived by binary fission from a single cell.
 - (3) A few cells in a clone may show differences due to mutation.
 - (4) A population of bacteria derived from a single cell is called a strain.
96. Haemagglutination is done by all viruses, except -
- (1) Togavirus
 - (2) Echoviruses
 - (3) Measles
 - (4) Human Papillomavirus
97. Bluish green fungus which on microscopic examination shows hyaline, septate hyphae with conidiophores showing branching metulae & chains of conidia (brush like). The fungus is -
- (1) Rhizopus
 - (2) Mucor
 - (3) Penicillium
 - (4) Aspergillus niger
98. Which statement is correct about catalase test?
- (1) Reagent used is 3% Hydrogen peroxide
 - (2) Can be performed on blood agar plate
 - (3) Can be performed with iron wire
 - (4) Streptococcus pyogenes is catalase positive organism

99. All are Oviparous parasite, except -

- (1) *Ascaris lumbricoides*
- (2) *Brugia malayi*
- (3) *Enterobius vermicularis*
- (4) *Necator americanus*

100. Match the following Vectors of human diseases caused by Rickettsia -

- | | |
|------------------------------|----------------------|
| (a) Epidemic typhus | (1) Trombiculid mite |
| (b) Endemic typhus | (2) No vector |
| (c) Scrub typhus | (3) Rat flea |
| (d) <i>Coxiella Burnetii</i> | (4) Louse |

- | | a | b | c | d |
|-----|---|---|---|---|
| (1) | 4 | 3 | 1 | 2 |
| (2) | 2 | 1 | 3 | 4 |
| (3) | 1 | 4 | 2 | 3 |
| (4) | 1 | 2 | 3 | 4 |

101. Monoclonal antibody binds to -

- (1) Epitope
- (2) Paratope
- (3) Both epitope and paratope
- (4) None

102. IgE is secreted by -

- (1) Mast cell
- (2) Basophils
- (3) Eosinophils
- (4) Plasma cells

103. Which statement is incorrect about transposons?

- (1) Are pieces of DNA
- (2) Are not self-replicating
- (3) Encode for drug resistance
- (4) The loop carrying the gene is double stranded

104. A dematiaceous fungus having curved conidia with a swollen central cells is seen in -
- (1) Alternaria
 - (2) Curvularia
 - (3) Drechslera
 - (4) Bipolaris
105. Which statement is incorrect about pseudomonas aeruginosa?
- (1) Causes urinary tract infections following catheterisation.
 - (2) Is not an important nosocomial pathogen.
 - (3) Causes Ecthyma gangrenosum in cancer patients.
 - (4) Causes necrotizing pneumonia in patients on contaminated equipments like respirators & endoscopes.
106. Kanagawa phenomenon is seen in -
- (1) Pseudomonas aeruginosa
 - (2) Vibrio parahaemolyticus
 - (3) Shigella sonnei
 - (4) Proteus mirabilis
107. One of the following about Corynebacterium diphtheriae is wrong -
- (1) Gram negative
 - (2) Babes – Ernst granules seen
 - (3) Chinese letter pattern
 - (4) Preventable by immunisation
108. Which of the following antigen is found within the nuclei of infected hepatocytes and not usually in the peripheral circulation in Hepatitis B infection?
- (1) HBeAg
 - (2) HBcAg
 - (3) Anti – HBc
 - (4) HBs-Ag
109. Naive T cells can be stimulated by -
- (1) N K cells and macrophages
 - (2) N K cells only
 - (3) B lymphocytes
 - (4) Antigen presenting cells

110. Painless terminal hematuria is seen in infection with -
- (1) *Schistosoma mansoni*
 - (2) *Schistosoma haematobium*
 - (3) *Plasmodium falciparum*
 - (4) *Schistosoma japonicum*
111. Which of the following statement is correct about electron microscope?
- (1) Resolving power of electron microscope is about 0.1 nm.
 - (2) Wavelength of electrons is directly proportional to their velocity.
 - (3) Electron beam is focused by lenses as in light microscope.
 - (4) The object is examined in the air.
112. β -lactam antibiotics act through which mechanism?
- (1) Inhibition of cell membrane function
 - (2) Inhibition of cell wall synthesis
 - (3) Inhibition of nucleic acid synthesis
 - (4) Inhibition of protein synthesis
113. Bile Esculin Test is for -
- (1) *Streptococcus pyogenes*
 - (2) *Streptococcus equinus*
 - (3) *Enterococcus*
 - (4) *Streptococcus mutans*
114. Sclerotic bodies are seen -
- (1) Rhinosporidiosis
 - (2) Chromoblastomycosis
 - (3) Candidiasis
 - (4) Entomophthoromycosis
115. Immunoglobulins are produced by -
- (1) Macrophages
 - (2) T cells
 - (3) B cells
 - (4) N K cells
116. Hydatid cyst is caused by -
- (1) *Ascaris lumbricoides*
 - (2) *Trypanosoma*
 - (3) *Echinococcus granulosus*
 - (4) *Fasciola hepatica*

117. Bipolar staining is characteristics of -
- (1) *Versinia pestis*
 - (2) *Shigella*
 - (3) *Klebsiella*
 - (4) *Proteus*
118. In a patient who has bubonic form of plague, all of the following specimens are acceptable for diagnosis, except -
- (1) Stool culture on Hektoen enteric agar
 - (2) Blood culture using routine laboratory media
 - (3) culture of lymph node aspirate on blood or MacConkey agar
 - (4) Acute and convalescent serology
119. A 4-year old child presents with acute watery diarrhoea and abdominal cramps. Stool examination/ microscopy reveals trophozoites with falling leaf motility. The etiological agent is -
- (1) *Entamoeba histolytica*
 - (2) *Giardia lamblia*
 - (3) *Trichomonas tenax*
 - (4) *Balantidium coli*
120. Fugitive or calabar swelling is seen in infection with -
- (1) *Onchocerca volvulus*
 - (2) *Loa loa*
 - (3) *Wuchereria bancrofti*
 - (4) *Brugia timori*
121. Which of the following is not used in the HIV-I treatment?
- (1) Delavirdine
 - (2) Zidovudine
 - (3) Rimantadine
 - (4) Stavudine
122. Who discovered that penicillin is produced by the fungus *penicillium*?
- (1) Jerne
 - (2) Fleming
 - (3) Louis Pasteur
 - (4) Joseph Lister

123. In which parasitic infection, autoinfection is not seen?
- (1) *Enterobius vermicularis*
 - (2) *Ancylostoma duodenale*
 - (3) *Strongyloide stercoralis*
 - (4) *Taenia solium*
124. Experimental animal carcasses, body parts, organs, tissues etc. used in experiments or testing in animal houses should be disposed off by -
- (1) Plasma pyrolysis
 - (2) Allowed to degrade in burials
 - (3) Shredded and mixed with normal waste
 - (4) Treating them with chemicals and burnt
125. Which of the following is also known as 'fifth disease'?
- (1) Gastroenteritis
 - (2) Aplastic crisis
 - (3) Hydrops fetalis
 - (4) Erythema infectiosum
126. Which ribosome is not present in bacteria?
- (1) 70S
 - (2) 30S subunit
 - (3) 50S subunit
 - (4) 80S
127. Trichophyton – Zoophilic species is -
- (1) *T. tonsurans*
 - (2) *T. violaceum*
 - (3) *T. schoenleinii*
 - (4) *T. mentagrophytes*
128. Special stain used to stain both live and dead fungi is -
- (1) H & E
 - (2) PAS
 - (3) Gomori methenamine silver
 - (4) Toluidine blue

129. Trivalent influenza vaccine contains all, except -
- (1) H₁N₁
 - (2) H₅N₁
 - (3) Influenza B strain
 - (4) H₃N₂
130. Exo – erythrocytic schizogony is not seen in -
- (1) Plasmodium falciparum
 - (2) Plasmodium vivax
 - (3) Plasmodium malariae
 - (4) Plasmodium ovale
131. Which statement is incorrect about Naegleria fowleri?
- (1) Is a free living amoeba found in fresh water, mild & moist soil.
 - (2) Causes primary amoebic meningoencephalitis.
 - (3) Trophozoites enter the body through nasopharynx while swimming.
 - (4) Causes keratitis in contact lens users.
132. Nosocomial infections/health care associated infections are all, except -
- (1) Catheter associated UTI
 - (2) Transfusion associated infections
 - (3) Ventilator associated pneumonia
 - (4) Cataract
133. Epstein-Barr virus is associated with the following malignancies, except -
- (1) Nasopharyngeal carcinoma
 - (2) Burkitt's lymphoma
 - (3) Carcinoma of cervix
 - (4) Non-Hodgkin lymphoma
134. Which of the following is not a characteristic of Trichophyton rubrum?
- (1) Produces red color with age
 - (2) Produces urease
 - (3) Produces hyaline, septate hyphae
 - (4) Produces teardrop microconidia
135. A clinical syndrome resembling whooping cough is seen in all, except -
- (1) Bordetella pertussis
 - (2) Mycoplasma pneumoniae
 - (3) Adenoviruses
 - (4) Pneumococcus

136. Which of the following statement is incorrect about *Leishmania donovani*?
- (1) Insect vector is sandfly (phlebotomus)
 - (2) Amastigote form occur in man
 - (3) Parasite multiply by binary fission
 - (4) Parasite multiply by sexual reproduction
137. Darting motility is seen in -
- (1) *Vibrio cholerae*
 - (2) *Salmonella typhi*
 - (3) *Escherichia coli*
 - (4) *Proteus mirabilis*
138. Super carrier of HBV shows following serum markers -
- (1) HBs Ag
 - (2) HBs Ag + HBV DNA
 - (3) HBs Ag + HBe Ag + HBV DNA
 - (4) Anti - HBs Ag + HBV DNA
139. About Global Influenza Surveillance and Response System (GISRS), which statement is/are correct?
- (1) In monitors the evolution of influenza viruses.
 - (2) Provides recommendations in areas including laboratory diagnostic, vaccines and treatment.
 - (3) Serves as a global alert mechanism for the emergence of influenza viruses with pandemic potential.
 - (4) All of the above
140. Rose Gardner's disease is -
- (1) Rhinosporidiosis
 - (2) Chromoblastomycosis
 - (3) Sporotrichosis
 - (4) Entomophthoromycosis
141. The pathogenicity of *Entamoeba histolytica* is indicated by -
- (1) Zymodeme pattern
 - (2) Size
 - (3) Nuclear pattern
 - (4) ELISA test
142. All the eggs float in saturated salt solution of specific gravity 1.200, except -
- (1) Fertilized egg of *Ascaris lumbricoides*
 - (2) Egg of *Ancylostoma duodenale*
 - (3) Egg of *Taenia saginata* and *Taenia solium*
 - (4) Egg of *Trichuris trichiura*

143. The characteristic feature of pus of amoebic liver abscess is -
- (1) Anchovy sauce pus
 - (2) Green coloured pus
 - (3) Thin blue pus
 - (4) None of the above
144. Which statement about antigens is incorrect?
- (1) Only antigens that are foreign to an individual induce an immune response.
 - (2) Autologous antigens are ordinarily antigenic.
 - (3) Sequestered antigen (lens protein) is not recognised as self-antigen.
 - (4) Antigens that are absent during embryonic life & develop later (sperms) are not recognised as self-antigen.
145. Parvovirus B19 has predilection for -
- (1) Erythroid progenitor cells
 - (2) Myeloid progenitor cells
 - (3) Hematopoietic stem cells
 - (4) Lymphoid progenitor cells
146. Paul – Bunnell test is done for -
- (1) Chicken pox
 - (2) Infectious mononucleosis
 - (3) Ascending myelitis
 - (4) Herpes zoster
147. Color of granules produced by *Actinomyces pelletieri* -
- (1) Black
 - (2) Yellow
 - (3) Red
 - (4) Brown
148. Which of the following subfamily contains the Epstein – Barr virus?
- (1) Alpha herpesviridae
 - (2) Beta herpesviridae
 - (3) Gamma herpesviridae
 - (4) Theta herpesviridae
149. Which statement is incorrect?
- (1) pH value of a liquid is defined as logarithm of the reciprocal of hydrogen ion concentration.
 - (2) A liquid of pH 5.0 is 10 times less acid than one of pH 6.0.
 - (3) A liquid of pH 9.0 is 10 times more alkaline than one of pH 8.0.
 - (4) A pH value of less than 7.0 indicates an acid solution & greater than 7.0 indicates alkaline solution.

150. Which of the following virus causes latent infection in salivary gland & other organs?
- (1) Cytomegalovirus
 - (2) Herpes simplex virus type 1
 - (3) Herpes zoster virus
 - (4) Epstein – Barr virus
151. Giardia lamblia causes all, except -
- (1) Malabsorption of fat
 - (2) Cholelithiasis
 - (3) Cholecystopathy
 - (4) Chronic enteritis
152. Pocks producing virus can be grown in -
- (1) Organ culture
 - (2) Chorioallantoic membrane
 - (3) Cell culture
 - (4) Continuous cell line
153. Which statement is incorrect about lactobacilli?
- (1) Are acid resistant
 - (2) Gram negative bacilli
 - (3) Are microaerophilic
 - (4) Ferment glucose & lactose without gas formation
154. Mechanism similar to Shwartzman reaction occurs in -
- (1) Fitz-Hugh-Curtis syndrome
 - (2) Waterhouse-Friderichsen syndrome
 - (3) Eichwald-Silmser effect
 - (4) Anaphylactoid reaction
155. Entamoeba histolytica causes all, except -
- (1) Dysentery
 - (2) Liver abscess
 - (3) Splenomegaly
 - (4) Pulmonary amoebiasis

156. Which hyaline, septate, monomorphic fungus which has fluffy to cottony pink colony & multicelled, sickle shaped macroconidia?
- (1) Acremonium
 - (2) Fusarium
 - (3) *M. gypseum*
 - (4) Paecilomyces
157. Reagent which is not incorporated in lactophenol cotton blue is -
- (1) Phenol crystals
 - (2) Cotton blue & glycerol
 - (3) Lactic acid
 - (4) Malachite green
158. *Burkholderia cepacia* is intrinsically resistant to -
- (1) Ciprofloxacin
 - (2) Ceftriaxone
 - (3) Polymyxin B
 - (4) Ampicillin
159. Delayed sequel of infection with measles virus is -
- (1) Creutzfeldt-Jakob disease
 - (2) Subacute sclerosing panencephalitis
 - (3) Subacute spongiform viral encephalopathy
 - (4) Progressive multifocal leukoencephalopathy
160. Which statement is incorrect about *Candida albicans*?
- (1) Shows Reynolds – Braude phenomenon
 - (2) From Chlamydozoospores on corn meal agar
 - (3) Produces Pseudomycelia both in tissue & culture
 - (4) Is resistant to Nystatin
161. How many mL melted NA (Nutrient Agar)/Mueller Hinton Agar medium should be poured in a 9.0 cm petri dish for antibiotic sensitivity?
- (1) 15 mL
 - (2) 30 mL
 - (3) 12 mL
 - (4) 25 mL

162. Ivermectin is effective in all, except -
- (1) Onchocerciasis
 - (2) Intestinal Nematode infection
 - (3) Lymphatic filariasis
 - (4) Schistosomiasis
163. Nematode which passes its life cycle in two hosts is -
- (1) *Ascaris lumbricoides*
 - (2) *Ancylostoma duodenale*
 - (3) *Wuchereria bancrofti*
 - (4) *Trichuris trichiura*
164. True statement regarding HEV diagnosis -
- (1) 3 Genotype diagnosis is based on IgG HCV
 - (2) Spreads through faeco oral route
 - (3) Pegylated INF is treatment of choice
 - (4) HCV real time PCR is the molecular diagnostic method of choice
165. Which drug binds the ergosterol component of the fungal cell membrane & disrupts it?
- (1) Ketoconazole
 - (2) Nystatin
 - (3) Amphotericin B
 - (4) Griseofulvin
166. Which marker serves as a useful indicator of prior infection with HBV, even after all the other markers become undetectable?
- (1) Anti HBs
 - (2) HBeAg (antigen)
 - (3) HBs antigen
 - (4) Anti HBc
167. In ultraclean air OT, the bioload in the centre of an empty theatre should be -
- (1) Less than 1 bcp/m³
 - (2) Less than 10 bcp/m³
 - (3) 20 bcp/m³
 - (4) 35 bcp/m³

168. Schultz Dale phenomenon is -

- (1) Anaphylaxis in vivo
- (2) Anaphylaxis in vitro
- (3) Atopy
- (4) Cutaneous hypersensitivity

169. Most common mode of transmission nosocomial infection -

- (1) Hand contact
- (2) Droplet infection
- (3) Blood and blood products
- (4) Contaminated water

170. Which method is not a phenotypic technique for typing microbial strain?

- (1) Bacteriocin typing
- (2) Biotyping
- (3) Serotyping
- (4) Restriction endonuclease analysis

171. Which statement is incorrect?

- (1) Dengue IgM antibody appears within 2-5 days & persists for 1-3 months.
- (2) Haemorrhagic manifestations & shock are hypersensitivity response to sequential dengue virus infection.
- (3) Interaction of IgG complexes with platelet F_c receptors leads to aggregation & vasoactive amine release.
- (4) Dengue is transmitted by Anopheles mosquito.

172. Tyndallisation is a type of -

- (1) Intermittent sterilization
- (2) Pasteurisation
- (3) Boiling
- (4) Autoclaving

173. Complement components are synthesised at various sites in the body, except -
- (1) Intestinal epithelium
 - (2) Macrophages
 - (3) Kidney
 - (4) Spleen & Liver
174. Kauffman white scheme is used in naming and identifying -
- (1) Shigella
 - (2) Vibrio
 - (3) Escherichia coli
 - (4) Salmonella
175. Match the following mycotoxins with the fungus which produces them -
- | | | |
|--------------------|------------------------|--|
| (a) Aflatoxins | (1) Claviceps purpurea | |
| (b) Ergotoxin | (2) Fusarium | |
| (c) Trichothecenes | (3) Aspergillus | |
- | | a | b | c |
|-----|---|---|---|
| (1) | 3 | 1 | 2 |
| (2) | 1 | 2 | 3 |
| (3) | 3 | 2 | 1 |
| (4) | 2 | 3 | 1 |
176. Ascospores are -
- (1) Asexual spores
 - (2) Sexual spores
 - (3) Conidia
 - (4) None of the above
177. Glassware is best sterilised in -
- (1) Hot air oven (160°C for two hours)
 - (2) Autoclaving (121°C for 15 min)
 - (3) Irradiation
 - (4) Glutaraldehyde (2%)

178. Culture media used for diagnosis of EHEC 0157 : H7 is -
- (1) O₂ culture
 - (2) Sorbitol MacConkey media
 - (3) XLD agar
 - (4) Deoxycholate media
179. Which of the following organism is late lactose fermenter?
- (1) Escherichia coli
 - (2) Klebsiella
 - (3) Salmonella
 - (4) Shigella sonnei
180. According to lattice hypothesis, antigen-antibody reactions are seen in -
- (1) Zone of antigen excess
 - (2) Zone of antibody excess
 - (3) Zone of equivalence
 - (4) With monovalent antibodies

Space for Rough Work

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