

Government Medical College and Hospital Sector 32, Chandigarh

Post: Demonstrator (Post-PG) Microbiology

QUESTION BOOKLET

Time: 120 Minutes

Number of Question: 100

Maximum Marks: 100

Name of Candidate

Roll Number: In figure

In Words

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Signature of the Candidate: _____

DO NOT OPEN THE SEAL ON THE BOOKLET UNTIL ASKED TO DO SO

INSTRUCTIONS:-

1. Write your Roll Number on the Question Booklet and also on the OMR Sheet in the space provided. You will be required to give your thumb impression on the OMR sheet in the space provided.
2. This question booklet contains 100 MCQ's. Once you are permitted to open the Question Booklet, please check for any missing question / misprint etc. and in case of any discrepancy, inform the Assistant Superintendent / Invigilator within 10 minutes of the start of the test.
3. Each question has four alternative answer (A, B, C, D) out of which only one is correct. For each question, **darken only one bubble (A or B or C or D)**, whichever you think is the correct answer, on the OMR Answer sheet **with Black or Blue Ball Pen only**. Do not use any other Pen / Gel pen / Pencil etc. **Do not Tick $\sqrt{}$ or \times on the OMR Sheet**. Darken the bubbles in the OMR Answer Sheet according to the Serial No. of the Questions given in the Question Booklet.
4. Each MCQ is of One (01) mark. There is no negative marking.
5. If you do not want to answer a question, leave all the bubbles corresponding to that question blank in the OMR Answer sheet.
6. The OMR Answer sheet is designed for computer evaluation. Therefore, if you do not follow the instructions given, it may make evaluation by the computer difficult. Any resultant loss to the candidates on the above account, i.e. not following instructions completely and properly, shall be the responsibility of the candidates only.
7. After the test, handover the Question Booklet and OMR sheet to the Invigilator on duty.
8. A Candidate who creates disturbance of any kind or changes his/her seat or is found in possession of any paper or the any assistance or found giving or receiving assistance or found using any other unfair means during the examination will be expelled from the examination by the Centre superintendent/Observer whose decision shall be final.
9. Telecommunication equipment such as pager, cellular phone, wireless, scanner, smart watch/ watch etc. is not permitted inside the examination hall. Use of calculators is not allowed.
10. Candidate should ensure accuracy of their personal details on the OMR Sheet i.e. Name and Roll No. as well as thumb impression. The personal details are to be filled in by the candidates with his/her own hand writing.

1. Which of the following drug combination is part of the three-drug, six-month, all-oral regimen treatment for treatment of Extensively Drug-Resistant TB (XDR-TB) or Multi Drug-Resistant TB (MDR-TB) affecting the lungs
 - A. Pretomanid, Bedaquiline and Linezolid
 - B. Bedaquiline, vancomycin and Delamanid
 - C. Pretomanid, Delamanid and Linezolid
 - D. Bedaquiline, Delamanid and Colistin
2. Which of the following groups of antifungal agent acts through cytochrome P-450:
 - A. Polyenes
 - B. Griseofulvin
 - C. Azoles
 - D. Benzylamines and Allylamines
3. Commonest helminthic infection in AIDS patients is:
 - A. Gastrocnemius
 - B. Strongyloides stercoralis
 - C. Enterobius vermicularis
 - D. Trichinella spiralis
4. Winter Bottom sign is observed in:
 - A. Leishmaniasis
 - B. Malaria
 - C. African trypanosomiasis
 - D. Babesiosis
5. The causative organism can be isolated in which among the following conditions:
 - A. CSF in tetanus
 - B. Myocarditis following diphtheria
 - C. Meningococcal petechial rash
 - D. Rheumatic valvulitis
6. Skin snips are used for diagnosis of which helminthic infections
 - A. Onchocerca
 - B. Brugia
 - C. Wuchereria
 - D. Loa-Loa
7. Atomic force Microscope is a type of:
 - A. Electron microscope
 - B. Confocal microscope
 - C. Scanning probe microscope
 - D. Light microscope
8. β glucan assay is not significant in the detection of which of these fungal infections:
 - A. Aspergillus
 - B. Candida
 - C. Zygomycetes
 - D. None of the above
9. This virus causes a mononucleosis-like syndrome caused by a latent herpesvirus; it is often a congenital infection. Large amounts of the virus are excreted in the urine; thus, urine becomes the fluid of choice for diagnosis of this disease.
 - A. Epstein-Barr virus
 - B. Cytomegalovirus
 - C. HHV-6
 - D. Parvovirus
10. Which of the following vaccines is contraindicated in patients with HIV infection due to the potential to cause infection?
 - A. Tetanus
 - B. Varicella
 - C. Haemophilus influenzae type B
 - D. Hepatitis A virus
11. Which of the following diseases are not transmitted by ticks?
 - A. Ulcero-glandular tularaemia
 - B. Bubonic plague
 - C. Relapsing fever
 - D. Lyme disease
12. The strain typing procedure that has the greatest interlaboratory agreement is:
 - A. MLEE
 - B. MLST
 - C. PFGE
 - D. RAPD
13. Men B vaccine is:
 - A. Reverse vaccinology technique
 - B. Recombinant vaccine
 - C. DNA vaccine
 - D. Edible vaccine

14. Cleavage of spike protein of SARS-CoV-2 to S1 & S2 subunit IS DONE by
 - A. ACE-2
 - B. TMPRSS
 - C. α , 2-6 sialic acid
 - D. PB1F2
15. Sheep liver fluke is the common name of:
 - A. Fasciolopsis buski
 - B. Clonorchis sinensis
 - C. Fasciola hepatica
 - D. Fasciola gigantica
16. Sporulated Oocysts of Cysto-isospora belli contain:
 - A. One sporocyst
 - B. Two sporocyst
 - C. Three sporocyst
 - D. Four sporocyst
17. Reniform inclusion bodies can be demonstrated in infections caused by:
 - A. Chlamydia
 - B. Mycoplasma
 - C. Rickettsia
 - D. Naegleria
18. Drug resistance in Tuberculosis is due to:
 - A. Conjugation
 - B. Transduction
 - C. Transformation
 - D. Mutation
19. Kanagawa phenomenon is shown on watatsuma agar by
 - A. Vibrio vulnificus
 - B. Vibrio parahaemolyticus
 - C. Vibrio cholerae
 - D. Vibrio mimicus
20. Hülle cells are seen in:
 - A. A. terreus
 - B. A. niger
 - C. A. nidulans
 - D. A. minutans
21. Which of these is implicated in keratitis:
 - A. Fusarium
 - B. Bipolaris
 - C. Aspergillus flavus
 - D. All of the above
22. Treatment of COVID-associated Mucormycosis is:
 - A. L-AMB
 - B. Voriconazole
 - C. Itraconazole
 - D. Fluconazole
23. Ideal treatment of Cryptococcus in induction phase:
 - A. L-AMB+5-FC
 - B. Fluconazole
 - C. Itraconazole
 - D. AMB
24. Mycetoma is not caused by:
 - A. Actinomycetes
 - B. Nocardia sp.
 - C. S. aureus
 - D. M. mycetomatis
25. Which of the following fungi produce aflatoxins that can contaminate food?
 - A. Albicans
 - B. A. flavus
 - C. Mucor indicus
 - D. Cryptococcus
26. Which among the following anti-tubercular drugs interferes with HAART?
 - A. Isoniazid
 - B. Ethambutol
 - C. Pyrazinamide
 - D. Rifampicin
27. Cutaneous viral infection characterized by pearly white colored smooth dome – shaped wart like nodules on skin?
 - A. Chickenpox
 - B. Smallpox
 - C. Molluscum contagiosum
 - D. Monkeypox
28. In measles, when do the Koplik's spot appear?
 - A. On the day of onset of fever
 - B. 1-2 days before rashes appear
 - C. On the day that rashes appear
 - D. 1-2 days before the fever occurs

29. In which of the following diseases is post exposure immunization prescribed?
- Dengue
 - Poliomyelitis
 - Yellow fever
 - Rabies
30. Who is the reservoir host of Nipah virus?
- Fruit bats
 - Pigs
 - Squirrel
 - Rabbits
31. Antiviral approved for treatment of LRTI caused by RSV in infants?
- Oseltamivir
 - Zanamivir
 - Ribavirin
 - Acylovir
32. Which of the following statements is false regarding HIV?
- HIV belongs to lentivirus group of retrovirus family
 - HIV infection is diagnosed by using Western blot method
 - Hodgkin's lymphoma is an AIDS defining condition
 - The virus can infect all cells expressing CD4 antigen
33. Excess zinc ions in MHA media are known to affect the zone size of which group of drugs?
- Carbapenems
 - Penicillins
 - Aminoglycosides
 - Monobactams
34. McFarland corresponds to how many CFU/ml?
- 1.5×10^8
 - 3×10^8
 - 6×10^8
 - 9×10^8
35. Enzyme CMY belongs to which group of Bush Jacoby classification?
- 1
 - 2a
 - 2b
 - 3
36. Which of the following can be given for the treatment of carbapenemase producing organisms?
- Carbapenems
 - β -lactam/lactam inhibitor combination
 - 3rd generation cephalosporins
 - Aminoglycoside
37. All of the following are examples of intrinsic antimicrobial resistance, EXCEPT:
- Anaerobic bacteria-aminoglycosides
 - Pseudomonas- Carbapenems
 - Aerobic bacteria-metronidazole
 - Gram-negative bacteria-vancomycin
38. Which of the following is not a rapid grower among nontuberculous mycobacteria
- M. abscessus
 - M. chelonae
 - M. kansasii
 - M. fortuitum
39. Which of the following is wrong statement regarding Acid-Fast staining procedure?
- Carbol fuchsin is prepared by dissolving basic fuchsin in 90-95% ethanol followed by addition of 5% aqueous solution of phenol
 - One potential drawback of fluorochrome stain is low sensitivity to detect rapid growers
 - Kinyoun technique is more sensitive in detecting lightly stained mycobacteria compared to Ziehl-Neelsen staining
 - Modified Auramine fluorochrome stain with addition of Rhodamine yields golden appearance to the cells
40. Which of the following are target genes for Nested PCR to detect M. tuberculosis?
- IS6110 gene
 - HSP65KD gene
 - MPT64 gene
 - All the above

41. Which of the following is an incorrect statement?
- Most of the mycobacteria can produce niacin and catalase
 - M. tuberculosis* and *M. simiae* convert niacin to niacin ribonucleotide
 - M. kansasii* can produce lipase which splits compound Tween 80 into oleic acid and polyoxyethylated sorbitol
 - Enzyme pyrazinamidase activity can be seen in *M. tuberculosis*
42. Swollen belly syndrome is seen in-
- Ascaris lumbricoides*
 - Strongyloides fuellerboni*
 - Ancylostoma duodenale*
 - Toxocara cani*
43. A patient gives history of bite by a tick and in a peripheral smear you see evidence of haemolytic anemia. What is the probable diagnosis?
- Babesia microti*
 - Plasmodium vivax*
 - Toxocara cani*
 - Toxoplasma gondii*
44. A 27-year-old female came to gynaecology OPD. On examination – Strawberry cervix is seen. Urine sample sent for lab diagnosis wet mount- Twitching type of motility seen. What is the probable diagnosis?
- Balantidium coli*
 - Trichomonas vaginalis*
 - Giardia lamblia*
 - Toxoplasma gondii*
45. A patient is diagnosed with Urinary bladder carcinoma. Which can be the causative agent for this?
- Fasciola hepatica*
 - Clonorchis sinensis*
 - Entamoeba histolytica*
 - Schistosoma haematobium*
46. A Chinese man gives history of eating raw fish. He is diagnosed with Cholangiocarcinoma. What is the causative agent?
- Schistosoma haematobium*
 - Clonorchis sinensis*
 - Fasciola hepatica*
 - Loa loa*
47. A 25-year-old female presents to the clinic with symptoms of a urinary tract infection, including dysuria, urgency, and frequency. Upon urine culture, the laboratory identifies gram positive cocci which is catalase positive and slide coagulase negative, resistant to novobiocin. Which of the following organisms is most likely responsible for this patient's UTI?
- Staphylococcus aureus*
 - Staphylococcus lugdunensis*
 - Staphylococcus saprophyticus*
 - Staphylococcus intermedius*
48. A 35-year-old sexually active individual presents with a painless genital ulcer and enlarged lymph nodes in the groin area. Physical examination reveals a single, well-defined, indurated ulcer with clean margins. Which stage of syphilis is most likely responsible for these clinical findings?
- Primary syphilis
 - Secondary syphilis
 - Tertiary syphilis
 - Latent syphilis
49. A patient presents to the emergency department with profuse watery diarrhea, vomiting, and dehydration after consuming undercooked seafood. On hanging drop, darting motility is appreciated. What is the most likely pathogenic mechanism by the microorganism causes symptoms ?
- Inhibition of protein synthesis
 - Increase in cGMP
 - Decrease in cyclic AMP
 - Increase in cyclic AMP

50. Tumbling motility is shown by which of the following bacteria
- Mycoplasma
 - Clostridium
 - Listeria
 - Vibrio cholera
51. The most common infectious cause of acquired haemolytic anemia is
- Mycoplasma
 - Clostridium
 - Escherichia coli
 - Malaria
52. Which of the following is Non-enveloped RNA virus?
- Parvovirus
 - Adenovirus
 - Papovavirus
 - Picornavirus
53. All of the following are bile stained eggs EXCEPT
- Trichuris trichura
 - Hymenolepis nana
 - Ascaris lumbricoides
 - Taenia solium
54. The rate of CAUTI is measured as
- no. of CAUTI/no. of catheter days x 1000
 - no. of CAUTI/no. of patient days x 1000
 - no. of CAUTI/no. of catheter days x 100
 - no. of CAUTI/ no. of patient days x 100
55. Spill kits include all EXCEPT
- PPE
 - waste collection bag
 - blotting paper
 - hydrogen peroxide
56. Cervavac, India's HPV vaccine acts against
- Type 6, Type 11, Type 16 and Type 18
 - Type 6, Type 11 and Type 16
 - Type 6, Type 11, Type 16 and Type 21
 - Type 11, Type 16 and Type 18
57. WHO recommends the use of TB LAMP assay
- for testing extrapulmonary specimens from patients with signs and symptoms
 - as a replacement test for sputum-smear microscopy to diagnose pulmonary TB in adults with signs and symptoms consistent with TB
 - to replace the use of rapid molecular tests that detect TB and resistance to rifampicin
 - for testing persons living with HIV as TB-LAMP has additional diagnostic value over sputum-smear microscopy
58. 7-day period ranging from the date of the first positive diagnostic test; three days before and three days after is called a
- repeat infection timeframe
 - infection window period
 - secondary attribution period
 - date of event
59. Smallest microbial genome is seen in:
- H.influenzae
 - Enterococcusgallinarum
 - Mycoplasma genitalium
 - Staphylococcus albus
60. Which is the most common serotype of Shigella in India:
- S.flexneri 4b
 - S.flexneri 6d
 - S. sonnei 2a
 - S.sonnei 6f
61. All are segmented viruses EXCEPT:
- Orthomyxoviridae
 - Bunyaviridae
 - Arenaviridae
 - Togaviridae
62. IGRA detects all EXCEPT:
- CFP-10
 - ESAT-6
 - TB 7.7
 - Ag 85

63. Which of the following is intrinsically resistant to colistin EXCEPT:
- Serratia
 - Hafnia alvei
 - Providencia
 - Staphylococcus aureus
64. Name the scientist who originally developed acid fast stain?
- Ziehl Neelsen
 - Louis Pasteur
 - Paul Ehrlich
 - Robert Koch
65. Dysentery is usually caused by all EXCEPT:
- Shigella
 - Campylobacter
 - Entamoeba histolytica
 - Salmonella
66. Which of the following follows Trojan horse phenomenon?
- Vibrio cholerae
 - Salmonella
 - Burkholderia
 - Ralstonia
67. In 1957, in India, it was noticed that cases of monkey mortality occurred in a forest area of the Shimoga district of Karnataka followed by the acute hemorrhagic disease in humans. The disease later on came to be known as Kyasanur Forest Disease (KFD). What is the most likely vector for this disease?
- Culex culicifaciens
 - Hemaphysalis spinigera
 - Aedes aegypti
 - Ixodes persulcatus
68. A man in his twenties presents in the emergency room with shortness of breath and fatigue. He is also very pale. Two days earlier he was given penicillin for an infection. He had penicillin previously without problems and stated that he had "no allergy" to penicillin. Laboratory testing shows that antibodies to penicillin are present in the patient's serum and that he is breaking down his own red blood cells. He is diagnosed with immune hemolytic anemia. The patient has which type of hypersensitivity reaction?
- Type I
 - Type II
 - Type III
 - Type IV (DTH)
69. A 68-year-old female was admitted to hospital with history of diarrhoea and severe dehydration for 4 days. She is a known diabetic and had history of UTI 2 weeks back, for which she was treated with amoxycillin. To find the etiological agent of diarrhoea, stool sample of the patient was collected. What is the best investigation you would tell the microbiologist to perform:
- Aerobic culture of the stool sample
 - GDH detection assay
 - GDH and Toxin detection assay
 - Stool microscopic examination
70. A 2-week-old male neonate revealed classic triad of cataract, deafness and PDA. Choose the correct statement pertaining the concerned infection:
- SSPE is one of the complications of this infection
 - The infection is confirmed by detection of IgG antibodies in serum or CSF
 - Typical owl-eye appearance is noted on culture
 - The infection could have been easily prevented by vaccination

71. A 40-year-old man presented with passage of loose stools 6-8 times/day. The stool was copious and blood-stained. The patient had no fever and the microscopic examination also revealed no pus cells. Tenesmus was present. What is your presumptive diagnosis:
- Bacillary dysentery
 - Hemolytic uremic syndrome
 - Amoebic dysentery
 - Shigellosis
72. Gram negative diplococci susceptible to penicillin isolated in a young male being investigated for Reiter's syndrome. What was the sample type?
- CSF
 - Synovial fluid
 - Blood
 - BAL
73. 2ME agglutination test for brucellosis is used to identify
- IgG
 - IgM
 - IgE
 - IgA
74. Oriental sore is caused by
- Leishmania donovani*
 - Leishmania infantum*
 - Leishmania aethiopica*
 - Leishmania tropica*
75. Resolving power of light microscope is
- 0.2 μm
 - 0.2 nm
 - 0.5 μm
 - 0.5 nm
76. Diarrhoea in HIV patients is caused by all EXCEPT
- Cryptosporidium parvum*
 - Cyclospora caytenensis*
 - Enterocytozoan bienersi*
 - Toxoplasma gondii*
77. Type 3 hypersensitivity is due to
- Atopic antibodies
 - Cytotoxic hypersensitivity
 - Cell mediated hypersensitivity
 - Immune complex disease
78. The most common serotype of *Haemophilus influenzae* causing meningitis is:
- d
 - a
 - b
 - c
79. Meyers-Kouwenaar syndrome is the name given to:
- Tropical Pulmonary Eosinophilia
 - Occult filariasis
 - Visceral larva migrans
 - Cutaneous larva migrans
80. Zymodemes in protozoa are based on:
- Lectin binding
 - Genomic analysis
 - Electrophoretic mobility of isoenzymes
 - Staining with monoclonal antibodies
81. Cord growth seen on mycobacterial culture is characteristic of:
- Avirulent strains
 - Virulent strains
 - Saprophytic strains
 - Atypical mycobacteria
82. Which is the first malarial vaccine that has completed the clinical development process and has been endorsed by the World Health Organization (WHO):
- RTS,S/AS01E
 - PfSPZ
 - Pfs230D1-EPA
 - R21/Matrix M
83. Which of the following antibiotics causes "Red man" syndrome?
- Isoniazide
 - Vancomycin
 - Chloramphenicol
 - Retapamulin
84. Mode of Action of terbinafine?
- Squalene epoxidase inhibitor
 - Disruption of microtubules
 - Inhibition of purine synthesis
 - Pores in cell wall

85. All the following are Superantigens EXCEPT:
 A. Staphylococcal enterotoxin
 B. Toxic Shock Syndrome Toxin
 C. Streptococcal pyrogenic exotoxin
 D. Dermonecrotic toxin
86. Which of the following diseases are not transmitted by mosquito:
 A. Malaria
 B. KFD
 C. JE
 D. Dengue
87. Small colony variants (SCVs) were first described in
 A. Staphylococcus aureus
 B. Staphylococcus epidermidis
 C. Salmonella typhi
 D. Burkholderia cepacia complex
88. Which of the following binds to the 30S subunit of bacterial ribosomes?
 A. Gentamicin
 B. Trimethoprim
 C. Erythromycin
 D. Vancomycin
89. An important nature of the disease caused by this agent, in US military personnel serving in Southeast Asia, is its ability to produce latent infection that can manifest many years after primary exposure. For this reason, the disease has been dubbed the "Vietnamese time bomb" and the agent is
 A. Burkholderia cepacia complex
 B. B. pseudomallei
 C. B. mallei
 D. B. gladioli
90. The most common organism which causes focal neurological deficit in an AIDS patient is:
 A. Cryptococcus neoformans
 B. Toxoplasma gondii
 C. Pneumocystis jiroveci
 D. Cryptosporidium parvum
91. Laryngeal papillomatosis is associated with HPV types:
 A. 16 & 18
 B. 6 & 11
 C. 2 & 4
 D. 6 & 18
92. Following are included in Phylum Deuteromycetes EXCEPT:
 A. Rhodosporidium
 B. Candida
 C. Ophiostoma
 D. Trichosporon
93. Diffuse osteomyelitis characterized by rapid bone destruction (moth eaten pattern) is seen in:
 A. Penicilliosis
 B. Mucormycosis
 C. Candidiasis
 D. Blastomycosis
94. Acute diarrhoeal disease resembling cholera can be caused by:
 A. Vibrio vulnificus
 B. Vibrio alginolyticus
 C. Aeromonas hydrophila
 D. All of the above
95. Which of the following E. coli causes Vibrio-like illness?
 A. EHEC
 B. ETEC
 C. EPEC
 D. EIEC
96. Which of the following is not useful for diagnosis of Cryptococcus?
 A. Microscopy
 B. BDG
 C. PCR
 D. Antigen testing
97. Beta-lactams are treatment of choice for
 A. S. aureus
 B. K. pneumoniae
 C. S. pyogenes
 D. Pseudomonas

98. Bullae formation is seen in all
EXCEPT
- A. *V. vulnificus*
 - B. *C. perfringens*
 - C. *S. pyogenes*
 - D. *Sporothrix schenckii*
99. PUO in a farmer who raises goats
would most likely be caused by
- A. *Brucella*
 - B. Q fever
 - C. Syphilis
 - D. *Bartonella*
100. Treatment of choice for *C. jejuni*
enterocolitis
- A. Ciprofloxacin
 - B. Erythromycin
 - C. Ampicillin
 - D. Ampicillin-gentamicin

SUBJECT: MICROBIOLOGY

1	A	21	D	41	B
2	A	22	A	42	B
3	B	23	A	43	A
4	C	24	C	44	B
5	C	25	B	45	D
6	A	26	D	46	B
7	C	27	C	47	C
8	C	28	B	48	A
9	B	29	D	49	D
10	B	30	A	50	C
11	B	31	C	51	D
12	B	32	C	52	D
13	A	33	A	53	B
14	B	34	B	54	A
15	C	35	A	55	D
16	B	36	D	56	A
17	A	37	B	57	B
18	D	38	C	58	B
19	B	39	C	59	C
20	C	40	D	60	A
61	D	81	B		
62	D	82	A		
63	B	83	B		
64	C	84	A		
65	D	85	D		
66	B	86	B		
67	B	87	C		
68	B	88	A		
69	C	89	B		
70	D	90	B		
71	C	91	B		
72	B	92	C		
73	B	93	D		
74	C	94	C		
75	A	95	B		
76	D	96	B		
77	D	97	C		
78	C	98	D		
79	A	99	A		
80	C	100	B		