

**JEMAS(PG)-2024**                      **QB No: 4102200001**  
**Subject: M.Sc in Medical Microbiology(M.Sc. MM)**

**Duration: 90 minutes**

**No of MCQ: 100**

**Full Marks: 100**

**INSTRUCTIONS**

1. All questions are of objective type having four answer options for each.
2. **Category-1:** Carries **1** mark each and only one option is correct. In case of incorrect answer or any combination of more than one answer,  $\frac{1}{4}$  mark will be deducted.
3. Questions must be answered on OMR sheet by darkening the appropriate bubble marked A, B, C, or D.
4. Use only **Black/Blue ink ball point pen** to mark the answer by filling up of the respective bubbles completely.
5. Write Question Booklet number and your roll number carefully in the specified locations of the **OMR** sheet. Also fill appropriate bubbles.
6. Write your name (in block letter), name of the examination center and put your signature (as is appeared in Admit Card) in appropriate boxes in the **OMR sheet**.
7. The OMR sheet is liable to become invalid if there is any mistake in filling the correct bubbles for Question Booklet number/roll number or if there is any discrepancy in the name/ signature of the candidate, name of the examination center. The OMR sheet may also become invalid due to folding or putting stray marks on it or any damage to it. The consequence of such invalidation due to incorrect marking or careless handling by the candidate will be sole responsibility of candidate.
8. Candidates are not allowed to carry any written or printed material, calculator, pen, log-table, wristwatch, any communication device like mobile phones, bluetooth devices etc. inside the examination hall. Any candidate found with such prohibited items will be **reported against** and his/her candidature will be summarily cancelled.
9. Rough work must be done on the Question Booklet itself. Additional blank pages are given in the Question Booklet for rough work.
10. Hand over the OMR sheet to the invigilator before leaving the Examination Hall.
11. Candidates are allowed to take the Question Booklet after examination is over.

Signature of the Candidate: \_\_\_\_\_

(As in Admit Card)

Signature of the Invigilator: \_\_\_\_\_

## **M.Sc. Medical Microbiology**

1. Virus contains nucleic acid as
  - (A) RNA
  - (B) DNA
  - (C) RNA and DNA
  - (D) RNA or DNA
2. Which of the following is the major core antigen of HIV ?
  - (A) gp120
  - (B) gp41
  - (C) P18
  - (D) P24
3. Jeryl Lynn strain is used for vaccination against –
  - (A) Influenza
  - (B) Measles
  - (C) Rubella
  - (D) Mumps
4. All of the following are true regarding Koplik's spot except –
  - (A) They appear one to two days after the rash appears
  - (B) They are bluish white ulcerations on buccal mucosa
  - (C) They indicate local viral replication
  - (D) They contain cytoplasmic and intra-nuclear inclusion bodies
5. Owl's eye appearance is associated with –
  - (A) HSV-2
  - (B) Herpes Zoster infection
  - (C) CMV
  - (D) Tanapox
6. Which part of the brain tissue has Negri bodies in abundance?
  - (A) Cerebrum
  - (B) Brain Stem
  - (C) Hippocampus
  - (D) Corpus callosum
7. Which of the following is false with regard to Prions ?
  - (A) They are proteinaceous infectious particles
  - (B) Cause chronic progressive degenerative disease of the CNS
  - (C) They possess either DNA or RNA
  - (D) Resistant to heat, irradiation and formalin
8. Any of the following viruses may cause infective diarrhoea except –
  - (A) Norwalk virus
  - (B) Parvovirus
  - (C) Rotavirus
  - (D) Calicivirus

9. Cart wheel appearance is seen in which of the following viruses ?  
(A) Measles virus  
(B) Rotavirus  
(C) SARS-CoV  
(D) HIV
10. Genetic re-assortment is a common natural event of –  
(A) Influenza A virus  
(B) Influenza B virus  
(C) Influenza C virus  
(D) Influenza D virus
11. Which of the following is an example of primary cell lines?  
(A) HeLa  
(B) Hep-2  
(C) KB  
(D) Monkey Kidney
12. All of the following viruses are transmitted by parenteral route except –  
(A) HIV  
(B) Hepatitis B virus  
(C) Hepatitis C virus  
(D) Hepatitis A virus
13. Which of the following is a single stranded DNA virus?  
(A) Pox virus  
(B) Papova virus  
(C) Paramyxovirus  
(D) Parvo virus
14. HBV vaccine is an example of which type of vaccine?  
(A) Live  
(B) Killed  
(C) Live attenuated  
(D) Cloned subunit
15. Which virus results in syncytium formation in cell lines?  
(A) Hepatitis B virus  
(B) Herpes virus  
(C) Enterovirus  
(D) Measles virus
16. All of the following are oncogenic viruses except –  
(A) Hepatitis A  
(B) Papilloma  
(C) Epstein Barr virus  
(D) HTLV-1

17. Which of the following is incorrect regarding Nipah virus –
- (A) It is a zoonotic virus
  - (B) It causes a food-borne disease that is transmitted by ingestion of dates contaminated with urine or saliva
  - (C) There is no person to person transmission
  - (D) Clinical presentation can range from asymptomatic infection to acute respiratory infection and fatal encephalitis
18. Carcinoma cervix is associated with –
- (A) HSV-2
  - (B) HPV
  - (C) HIV
  - (D) HSV-2 and HPV
19. Which is the best laboratory test to detect HIV infection in the window period ?
- (A) P24 antigen assay
  - (B) IgM Capture ELISA
  - (C) IgG ELISA
  - (D) Western Blot
20. Guarnieri bodies are seen in which viral infection?
- (A) Rabies
  - (B) Polio
  - (C) Vaccinia
  - (D) Herpes
21. Haemadsorption test uses RBC of
- (A) Sheep
  - (B) Mouse
  - (C) Guinea Pig
  - (D) Hamster
22. Which of the following hepatitis virus is a DNA virus ?
- (A) Hepatitis A
  - (B) Hepatitis B
  - (C) Hepatitis C
  - (D) Hepatitis G
23. Which marker indicates protective immunity following HBV vaccination –
- (A) HBsAg
  - (B) Anti HBsAg
  - (C) Anti HBcAg
  - (D) Anti HBeAg
24. The incubation period of human influenza is
- (A) 1-3 days
  - (B) 10-12 days
  - (C) 8-10 days
  - (D) 12-14 days

25. Sequential change in viral antigenic structure by recombination of viral genetic segments at regular interval is called  
(A) Antigenic shift  
(B) Antigenic drift  
(C) Point mutation  
(D) Antigenic recombination
26. “Anchovy sauce” pus is a hallmark of :  
(A) Ameboma  
(B) Scabies  
(C) Toxocariasis  
(D) Amebic liver abscess
27. All are methods of diagnosing Malaria in humans except:  
(A) RDT  
(B) Peripheral blood smear examination  
(C) Quantitative Buffy Coat examination  
(D) Serotyping
28. DEC provocation test is recommended for diagnosis of:  
(A) Filariasis  
(B) Leishmaniasis  
(C) Dracunculiasis  
(D) Sparganosis
29. Features of Congenital Toxoplasmosis are all except:  
(A) Microcephaly  
(B) Hepatosplenomegaly  
(C) Micro-ophthalmia  
(D) Saber Tibia
30. Which of the following can manifest both as visceral and cutaneous larva migrans:  
(A) *Necator americanus*  
(B) *Strongyloides stercoralis*  
(C) *Trichuris trichiura*  
(D) *Enterobius vermicularis*
31. ‘Calabar swelling’ is characteristic of :  
(A) *Mansonella ozzardi*  
(B) *Wuchereria bancrofti*  
(C) *Loa loa*  
(D) All of the above
32. Parasite with modified acid fast oocysts causing intractable diarrhea in HIV-AIDS patient is:  
(A) *Babesia microti*  
(B) *Entameba histolytica*  
(C) *Cystoisospora belli*  
(D) *Toxocara canis*

33. Novy MacNeal Nicolle medium is used for cultivation of:  
(A) *Leishmania* spp.  
(B) *Leptospira* spp.  
(C) *Mycoplasma pneumoniae*  
(D) All of the above
34. Which of the following is a non-bile stained ovum?  
(A) *Ancylostoma duodenale*  
(B) *Ascaris lumbricoides*  
(C) *Taenia solium*  
(D) *Trichuris trichiura*
35. Acid fast structures are:  
(A) Matured oocysts of coccidian parasites  
(B) Embryophore of *Taenia saginata*  
(C) None of the above  
(D) Both a+b
36. "Maltese cross appearance" is characteristic of:  
(A) *Trypanosoma gambiense*  
(B) *Hymenolepis nana*  
(C) *Babesia microti*  
(D) *Trichuris trichiura*
37. Muscle biopsy is recommended for diagnosis of:  
(A) Hookworm infection  
(B) Filariasis  
(C) Trichinellosis  
(D) Leishmaniasis
38. Which of the following parasite doesnot abide by the classical definition of trematode:  
(A) *Gastrodiscoides hominis*  
(B) *Fasciola hepatica*  
(C) *Schistosoma hematobium*  
(D) *Paragonimus westermanii*
39. Parasite most commonly causing Vitamin B12 deficiency in human beings:  
(A) *Spirometra* spp.  
(B) *Acanthamoeba* spp.  
(C) *Diphyllobothrium latum*  
(D) *Echinococcus multilocularis*
40. Which of the following is a parasitic cause of blindness?  
(A) *Gnathostoma spinigerum*  
(B) *Blastocystis hominis*  
(C) *Entamoeba coli*  
(D) *Schistosoma mansoni*
41. "Herring worm" is a common name for:  
(A) *Anisakis simplex*  
(B) *Taenia saginata*  
(C) *Enterobius vermicularis*  
(D) *Trichinella spiralis*

42. Human beings commonly get infected with *Paragonimus westermani* from:
- (A) Droplets
  - (B) Infected crab meat
  - (C) Handshakes
  - (D) All of the above
43. Tachyzoites of *Toxoplasma gondii* are maintained in:
- (A) NNN media
  - (B) Fetal calf serum
  - (C) Intraperitoneal cavity of laboratory mouse
  - (D) All of the above
44. True statement is:
- (A) Malaria parasites are cultivated routinely in most laboratories
  - (B) Scabies infestation of human beings may result in acute kidney injury (AKI) and eventual Chronic Kidney Disease (CKD)
  - (C) Transfusion transmitted malaria does not require any therapy
  - (D) *Loa loa* is a very common cause of *Acne vulgaris*
45. True regarding *Trichomonas vaginalis*:
- (A) Has only one form and are actively motile
  - (B) Can be cultivated on Kupferberg media
  - (C) Is a common agent of Sexually transmitted infection
  - (D) All of the above
46. Heartworm disease is caused by:
- (A) *Wuchereria bancrofti*
  - (B) *Loa loa*
  - (C) *Dirofilaria immitis*
  - (D) *Onchocerca volvulus*
47. *Sappinia diploidea* is a/an:
- (A) Ectoparasite
  - (B) Free living ameba
  - (C) Soil transmitted helminth
  - (D) Trematode infecting neonates
48. Motility of *Giardia lamblia* is:
- (A) Rapid darting
  - (B) Stately
  - (C) Falling leaf like
  - (D) Right handed cork-screw
49. Kato-Katz technique is used to :
- (A) Quantify *Schistosoma* and some nematode eggs
  - (B) Control auto-infection
  - (C) Assay drug resistance in malaria
  - (D) Reduce filarial lymphangitis

50. Iron deficiency anemia is caused by:  
(A) Whipworm  
(B) Dog tapeworm  
(C) Hookworm  
(D) Pinworm
51. Fungi are  
(A) Prokaryote  
(B) Eukaryote  
(C) Both  
(D) None
52. Which of the following is a fungus?  
(A) Klebsiella  
(B) Clostridia  
(C) Trichosporon  
(D) Listeria
53. *C. albicans* is:  
(A) Yeast  
(B) Yeast like  
(C) Dimorphic  
(D) Mould
54. The only pathogenic true yeast is:  
(A) *Candida*  
(B) *Saccharomyces*  
(C) *Cryptococcus*  
(D) *Aspergillus*
55. Imperfect fungi are also known as:  
(A) Basidiomycetes  
(B) Ascomycetes  
(C) Zygomycetes  
(D) Deuteromycetes
56. Dimorphic fungi grow as yeasts at:  
(A) 25°C  
(B) 37°C  
(C) 42°C  
(D) Room Temperature
57. All are dimorphic fungi except:  
(A) *Histoplasma*  
(B) *Paracoccidioides*  
(C) *Cryptococcus*  
(D) *Blastomyces*
58. *Aspergillus* is  
(A) Yeast like  
(B) True yeast  
(C) Mould  
(D) All of the above

59. The most commonly used culture media for fungi is  
(A) SDA  
(B) Nutrient agar  
(C) LJ media  
(D) All of the above
60. Which fungus gives germ tube test positive?  
(A) Cryptococcus  
(B) Aspergillus  
(C) Candida albicans  
(D) All Candida species
61. Reagent used for germ tube test is  
(A) Serum  
(B) Normal Saline  
(C) Whole blood  
(D) Urine
62. Pseudo hyphae seen in  
(A) Candida  
(B) Cryptococcus  
(C) Aspergillus  
(D) Trochosporon
63. Which of the following test is used as negative staining for fungus  
(A) Gram stain  
(B) Giemsa stain  
(C) KOH preparation  
(D) India ink preparation
64. Budding is seen with:  
(A) Cryptococcus and Candida  
(B) Candida and Rhizopus  
(C) Rhizopus and Mucor  
(D) Candida and Aspergillus
65. Cryptococcus can be readily demonstrated by:  
(A) Albert's stain  
(B) India ink stain  
(C) Giemsa stain  
(D) Gram's stain
66. Zygomycosis is caused by:  
(A) Aspergillus  
(B) Candida  
(C) Yeast  
(D) Rhizopus
67. Which of the following is septate fungus?  
(A) Aspergillus  
(B) Candida  
(C) Nocardia  
(D) Rhizopus

68. Broad aseptate hyphae seen in  
(A) Candida  
(B) Aspergillus  
(C) Cryptococcus  
(D) Mucor
69. Selective media for fungus is  
(A) SDA  
(B) Blood agar  
(C) LJ Media  
(D) XLD media
70. Subcutaneous mycosis caused by  
(A) Trichophyton  
(B) Microsporum  
(C) Epidermophyton  
(D) Madurella
71. LPCB is used to see morphology of  
(A) Virus  
(B) Bacteria  
(C) Fungi  
(D) Parasite
72. Wood's Lamp used in all except:  
(A) Tinea pedis  
(B) Pityriasis versicolor  
(C) Sporotrichosis  
(D) Vitiligo
73. Lower fungi which have nonseptate hyphae and which form sporangiospores are called:  
(A) Ascomycetes  
(B) Phycomycetes  
(C) Deuteromycetes  
(D) Basidiomycetes
74. A sporangium contains:  
(A) Spherules  
(B) Sporangiospores  
(C) Chlamydozoospores  
(D) Conidia
75. Which Fungus was cultivated only recently ?  
(A) Rhinosporidium seeberi  
(B) Penicillium marneffeii  
(C) Aspergillus flavus  
(D) Sporothrix schenckii
76. Bacterial capsule can be best demonstrated by:  
(A) Gram staining  
(B) Acid-fast staining  
(C) Negative staining  
(D) Albert staining

77. Which is an enrichment media  
(A) Blood agar  
(B) MacConkey agar  
(C) Chocolate agar  
(D) Selenite F broth
78. Which of the following is a Gram-negative cocci  
(A) Streptococcus pneumoniae  
(B) Neisseria meningitidis  
(C) Listeria monocytogenes  
(D) Acinetobacter baumannii
79. Lipopolysaccharide is a component of cell wall of  
(A) Gram-negative bacteria  
(B) Gram-positive bacteria  
(C) Virus  
(D) Fungi
80. Which is a form of cold sterilization?  
(A) Infrared rays  
(B) Gamma rays  
(C) Autoclave  
(D) UV rays
81. Which of the following is used for disinfection of blood spillage area?  
(A) Phenol  
(B) Lysol  
(C) Hypochlorite  
(D) Formaldehyde
82. All of the following of are Enterobacteriaceae except  
(A) E. coli  
(B) Salmonella  
(C) Pseudomonas  
(D) Klebsiella
83. Which of the following organism gives indole test positive  
(A) Proteus vulgaris  
(B) Klebsiella pneumoniae  
(C) Pseudomonas aeruginosa  
(D) Salmonella Typhi
84. Disposable plastic syringe is sterilized by  
(A) ETO  
(B) Hot air oven  
(C) Autoclave  
(D) UV rays
85. All are Acid-fast organisms except  
(A) Mycobacterium tuberculosis  
(B) Nocardia  
(C) Actinomyces  
(D) Bacterial spore

86. Rapid diagnosis of Mycobacteria can be done by all methods except  
(A) CBNAAT  
(B) TRUENAT  
(C) PCR  
(D) MGIT
87. All of the following bacteria can cause UTI except  
(A) E.coli  
(B) Enterococci  
(C) Proteus  
(D) Vibrio cholerae
88. Selective media for Corynebacterium diphtheriae is  
(A) Blood agar  
(B) Chocolate agar  
(C) MacConkey agar  
(D) Potassium tellurite containing agar
89. Catalase test is negative in  
(A) Staphylococcus aureus  
(B) Salmonella Typhi  
(C) Streptococcus pyogenes  
(D) None of the above
90. Which antibody can transmit from mother to foetus  
(A) Ig A  
(B) Ig G  
(C) Ig M  
(D) Ig D
91. Contact dermatitis is an example of  
(A) Type I hypersensitivity  
(B) Type II hypersensitivity  
(C) Type III hypersensitivity  
(D) Type IV hypersensitivity
92. All cells are part of acquired immune system except  
(A) T helper cell  
(B) B Lymphocyte  
(C) NK cell  
(D) T cytotoxic cell
93. T Lymphocytes mature in the  
(A) Thymus  
(B) Bone marrow  
(C) Spleen  
(D) Lymph node
94. Cell mediated immune response targets all except  
(A) Virus  
(B) Intracellular bacteria  
(C) Extracellular bacteria  
(D) Cancer cell

95. Which of the following bacteria causes STI
- (A) Staphylococcus aureus
  - (B) Shigella flexneri
  - (C) Chlamydia trachomatis
  - (D) Helicobacter pylori
96. Widal test for enteric fever is diagnostic in which week of fever
- (A) 1st week
  - (B) 2nd week
  - (C) 3rd week
  - (D) None of the above
97. Scrub typhus is caused by
- (A) Orientia tsutsugamushi
  - (B) Rickettsia rickettsii
  - (C) Rickettsia typhi
  - (D) Leptospira interrogans
98. All are Hospital acquired infections except
- (A) CLABSI
  - (B) CAUTI
  - (C) CA-MRSA
  - (D) VAP
99. Disposable infected syringes are discarded in
- (A) Blue bag
  - (B) Red bag
  - (C) Yellow bag
  - (D) White puncture proof container
100. Cefoxitin is a surrogate marker for the detection of
- (A) MRSA
  - (B) VRSA
  - (C) VISA
  - (D) VRE

ROUGH WORK ONLY