

MICROBIOLOGY
PAPER- FIRST

Note: Attempt all questions.
Draw suitable diagrams (wherever necessary)

Q. 2. Give reasons:**(1 x 4 = 04)**

- a. Taenia saginata infection is seen mainly in Muslims only
- b. Freshly passed eggs of Ascaris lumbricoides are not infective
- c. Why induration is seen in Type IV hypersensitivity and not in Type I or III.
- d. Sporulation in bacteria is not a method of reproduction. Why?

Q. 3. Problem based question:**(1 x 4 = 04)**

A young male patient from Bihar was treated for Kalazar about 2 years ago. He is now presenting with painless nodules of variable sizes all over his face.

- a. What is this condition known as?
- b. What is the causative organism?
- c. How will you make the diagnosis?
- d. How will you treat the condition?

Q. 4. Write short notes on:**(2 x 4 = 08)**

- a. L forms of bacteria
- b. Restricted transduction
- c. Structure of IgA antibody
- d. Primary amoebic Meningoencephalitis.

Q. 5. (i) How does agglutination differ from precipitation? Briefly describe the various types of agglutination tests with examples.

(04)

(ii) Enumerate the nematodes found in small intestine and describe the life cycle of anyone of them by arrow diagram only.

(04)**Q. 6. Differentiate between following in tabular form:****(2 x 4 = 08)**

- a. Taenia solium & T. saginata
- b. Primary and secondary immune response
- c. Mutational & transferable drug resistance.
- d. Microfilaria of Wuchereria bancrofti and Brugia malayi.

M.B.B.S. SECOND PROFESSIONAL EXAMINATION, APRIL-2021
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[Time allotted: Three hours]

SET - A

[Max Marks: 40]

Q. 1. Multiple choice questions (attempt all MCQs in the allotted first 15 minutes in the OMR sheet) (½ x 16= 08)

1. A host harboring adult or sexual stage of a parasite is called:
 - a. Definitive host
 - b. Intermediate host
 - c. Reservoir host
 - d. None of the above
2. Which is the infective form of the malaria parasite to mosquito?
 - a. Merozoite
 - b. Sporozoite
 - c. Trophozoite
 - d. Gametocyte
3. Mature cyst of *Entamoeba histolytica* differs from *Entamoeba coli* by:
 - a. Larger and uninucleated
 - b. Smaller and binucleated
 - c. Smaller and quadrinucleated
 - d. Larger and quadrinucleated
4. *Giardia lamblia* resides in:
 - a. Sigmoid colon
 - b. Colon
 - c. Duodenum
 - d. None of the above
5. Amastigote form of *Leishmania donovani* resides in the:
 - a. Gastrointestinal tract of insect vector
 - b. Salivary gland of mosquito
 - c. Cells of reticuloendothelial system
 - d. NNN culture media
6. Which of the following Cestode doesn't need an intermediate host to complete the life cycle?
 - a. *Hymenolepis nana*
 - b. *Taenia saginata*
 - c. *Diphyllobothrium latum*
 - d. *Echinococcus granulosus*
7. Number of eggs laid down by a female *Ascaris lumbricoides* in a day is about:
 - a. 5,000
 - b. 2,0000
 - c. 1,00,000
 - d. 2,40,000
8. Teichoic acid is present in:
 - a. Gram negative bacteria
 - b. Gram positive bacteria
 - c. *Mycoplasma*
 - d. *Rickettsia*
9. Which of the following bacteria dies quickly after drying?
 - a. *Mycobacterium tuberculosis*
 - b. *Staphylococcus aureus*
 - c. *Pseudomonas aeruginosa*
 - d. *Treponema pallidum*
10. Heating in a hot air oven at 160°C for one hour is used for sterilization of:
 - a. All glass syringes
 - b. Oils and jellies
 - c. Swab sticks
 - d. All of the above
11. Transfer of genetic information from DNA to RNA is called:
 - a. Transduction
 - b. Transcription
 - c. Transformation
 - d. Recombination
12. Which of the following infection is acquired from animal?
 - a. Plague
 - b. Diphtheria
 - c. Meningitis
 - d. Poliomyelitis
13. Ataxia telangiectasia syndrome is due to:
 - a. B cell defect
 - b. T cell defect
 - c. Combined immunodeficiency
 - d. Disorder of complement
14. VDRL test is a type of:
 - a. Slide agglutination test
 - b. Tube agglutination test
 - c. Slide flocculation test
 - d. Neutralization test
15. Arthus Reaction is a type of:
 - a. Type I hypersensitivity reaction
 - b. Type II hypersensitivity reaction
 - c. Type III hypersensitivity reaction
 - d. Type IV hypersensitivity reaction
16. HLA complex of genes is located on short arm of:
 - a. Chromosome 6
 - b. Chromosome 3
 - c. Chromosome 5
 - d. Chromosome 4

MICROBIOLOGY
PAPER- SECOND

Note: Attempt all questions.
Draw suitable diagrams (wherever necessary)

- Q. 2. Give reasons:** (1 x 4 = 04)
- Why *Pseudomonas aeruginosa* is notorious pathogen in hospital acquired infections?
 - Why secondary Dengue infection is more dangerous than primary infection?
 - Why Influenza virus is unique in its ability to undergo antigenic variations?
 - Why tubercle bacilli is called acid-fast bacilli?
- Q. 3. Problem based question:** (1+1+1+1 = 04)
- A 5 year old child presents to Paediatric OPD with complaints of sore throat, difficulty in swallowing food and swelling of neck. His parents are not sure of his vaccination status. On examination, whitish patches are seen on both the tonsils.
- What is the likely diagnosis?
 - What is the pathogenesis behind this condition?
 - What laboratory investigations can be done to diagnose the condition?
 - Why vaccination history is important in this case?
- Q. 4. Write short notes on:** (2 x 4 = 08)
- Classification of Non-tuberculous Mycobacteria
 - Classification of Dermatophytes and its laboratory diagnosis.
 - Non-gonococcal urethritis
 - Widal test
- Q. 5. (i) Classify Clostridia. Discuss the laboratory diagnosis of Gas gangrene.** (04)
- (ii) Describe the morphology of HIV and laboratory diagnosis of HIV infection.** (04)
- Q. 6. Write in Brief about:** (2 x 4 = 08)
- Labelled diagram of *Embryonated* egg inoculation
 - Differences between *S. pneumoniae* and *S. viridians* in tabular form
 - Enumerate experimental animals used for cultivation of *Mycobacterium leprae*
 - Germ tube test

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Q. 1. Multiple choice questions (attempt all MCQs in the allotted first 15 minutes in the OMR sheet) (½ x 16= 08)

1. Which of the following mosquitoes transmit Chikungunya virus?
 - a. Anopheles
 - b. Aedes
 - c. Culex
 - d. None of the above
2. Undulant fever is caused by:
 - a. *Staphylococcus aureus*
 - b. *Brucella melitensis*
 - c. *Mycobacterium Kansasii*
 - d. *Escherichia coli*
3. Q fever is caused by:
 - a. *Coxiella burnetti*.
 - b. *Rickettsiae akari*
 - c. *Rickettsiae prowazekii*
 - d. *Bartonella quintana*
4. Which of the following serotypes of Chlamydia trachomatis cause Hyperendemic Trachoma?
 - a. A, B, Ba, C
 - b. D to K
 - c. L1 to L3
 - d. None of the above
5. Which of the following virus was used for Small pox vaccination?
 - a. Tanapox virus
 - b. Variola virus
 - c. Cowpox virus
 - d. Vaccinia virus
6. Which of the following fungi is/are dimorphic?
 - a. *Paracoccidioides brasiliensis*
 - b. *Coccidioides immitis*
 - c. *Sporothrix schenckii*
 - d. All of the above
7. Which of the following fungi is capsulated?
 - a. *Rhinosporidium seeberi*
 - b. *Cryptococcus neoformans*
 - c. *Candida albicans*
 - d. *Blastomyces dermatitides*
8. Which of the following is the largest virus?
 - a. Smallpox virus
 - b. Chickenpox virus
 - c. Adenovirus
 - d. Reovirus
9. Koplik's spots on the buccal mucosa is a characteristic feature of?
 - a. Respiratory syncytial virus
 - b. Rubella virus
 - c. Mumps virus
 - d. Measles virus
10. The causative agent of louse borne relapsing fever is:
 - a. *Borrelia duttoni*
 - b. *Borrelia vincentii*
 - c. *Borrelia recurrentis*
 - d. *Borrelia burgdorferi*
11. The causative agent of Chancroid is:
 - a. *Treponema pallidum*
 - b. *Haemophilus influenzae*
 - c. *Haemophilus ducreyi*
 - d. *Chlamydia trachomatis*
12. Stalactite growth in ghee broth is due to:
 - a. *Haemophilus influenza*
 - b. *Corynebacterium diphtheriae*
 - c. *Yersinia pestis*
 - d. *Treponema pallidum*
13. McFadyean's reaction is used for presumptive diagnosis of:
 - a. Tetanus
 - b. Anthrax
 - c. Cholera
 - d. Gas Gangrene
14. Tube Coagulase test detects?
 - a. Free coagulase
 - b. Bound coagulase
 - c. Both of the above
 - d. None of the above
15. Who discovered Helicobacter pylori?
 - a. Louis Pasteur
 - b. Kary Mullis
 - c. Stanley Prusiner
 - d. Warren and Marshall
16. Most common organism causing UTI?
 - a. *Staphylococcus aureus*
 - b. *Proteus species*
 - c. *Klebsiella species*
 - d. *Escherichia coli*