



Date: 05-11-2019

Dept. No.

Max. : 100 Marks

Time: 01:00-04:00

PART – A

Answer ALL the Questions

I. Choose the correct answer

(5 x 1 = 5 Marks)

- Which of the following scientist tried to disprove Spontaneous generation theory by passing air through cotton into flasks containing heated broth?
a) Franz Schulze b) H. Schroder and T. Von Dusch
c) Lazaro Spallanzani d) Theodor Schwann
- Resolving power of a microscope is a function of _____
a) Wavelength of light used b) Numerical aperture of lens system
c) Refractive index d) Wavelength of light used and numerical aperture of lens system
- Which of the following is a specific test for detecting typhoid?
a) WIDAL b) VDRL c) Mantoux d) RPR
- Bacteriophages that can enter into stable, long-term relationships with their hosts are called
a) Lytic phages b) Defective phages c) virulent phages d) Temperate phages
- Which of the following fungi is most likely to be found within reticuloendothelial cells?
a) *Histoplasma capsulatum* b) *Sporothrix schenckii*
c) *Cryptococcus neoformans* d) *Candida albicans*

II. State whether the following are true or false.

(5x1=5 Marks)

- If two organisms are distantly related and show no DNA homology there still may be similarity in their rRNA cistrons.
- F pilus plays a major role in attachment to the cell.
- Polysaccharide capsule is a major virulence factor of *Streptococcus pneumoniae*.
- Herpesvirus and Hepadnaviruses are double stranded DNA viruses.
- Myxomycetes are acellular slime molds.

III. Complete the following

(5 x 1= 5 Marks)

- Cyanobacteria require _____ as a source of energy to perform photosynthesis.
- The protein which acts as a transport protein for protons in flagellar motion is _____.
- Erysipelas is caused by _____.
- Marker that is usually present in a hepatitis B carrier with chronic active hepatitis is _____.
- Imperfect fungi which lack sexual reproduction and possess a special genetic recombination are called _____.

IV. Answer the following, each within 50 words

(5 x 1 = 5 Marks)

- Differentiate sterilisation from disinfection
- What is a protoplast?
- Mention any two toxin-mediated staphylococcal diseases.
- What are Satellite RNAs?
- What are dimorphic fungi?

PART B

Answer the following, each within 500 words.

(5 x 8 = 40 marks)

Draw diagrams wherever necessary

21. (a) Give a short note on taxometrics.

OR

(b) Briefly explain Whittaker's five kingdom concept.

22. (a) Explain the structure and function of fluorescence microscope.

OR

(b) Give a brief account of the structure and function of Flagella.

23. (a) Give an account of the classification of *Streptococcus*.

OR

(b) Write briefly on the pathogenesis of *Neisseria meningitidis*.

24. (a) Compare and contrast the different viral Hepatitis viruses

OR

(b) Elaborate on the transmission and multiplication Rhabdovirus in humans.

25. (a) Classify fungi based on structure, reproduction and site of infection.

OR

(b) Write a short note on Aspergillosis.

PART – C

Answer any TWO of the following, each within 1500 words.

(2 x 20 = 40 Marks)

Draw diagrams wherever necessary.

26. Write in detail on Electron Microscopy. Add a note on the preparation of specimens for electron microscopy.

27. Write in detail on the pathogenesis and laboratory diagnosis of *Mycobacterium tuberculosis*.

28. Explain the lytic and lysogenic cycle of bacteriophage.

29. Describe the lifecycle of *Plasmodium falciparum*.

