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SARDAR PATEL UNIVERSITY
S.Y.B.Sc EXAMINATION - SEMESTER-III

MICROBIOLOGY – US03CMIC01(Fundaments of Microbiology I)

Date: 14/06/2022

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Time: 12:00 PM to 02:00 PM

Day: Tuesday

Tuesday

Total marks: 70

N.B: Figures on the right indicate marks.

Q.1 Multiple Choice Questions.

10

- 1 Flagella is made up of _____ Protein.
(a) Albumin (b) Flagellin
(c) Globulin (d) Pillin
- 2 Which of the following bacteria produce Cysts?
(a) Rhizobium (b) Azotobacter
(c) Azospirillum (d) All
- 3 Which enzyme is required for preparation of protoplast?
(a) Lysozyme (b) Lipase
(c) Amylase (d) Penicillinase
- 4 H.Schroder and T.Von Dusch has initiated the technique of plugging the bacterial culture with _____
(a) Silk (b) Cotton
(c) Rubber (d) Plastic
- 5 Action of Alcohol during Gram's staining is _____
(a) Allows the color (b) It adds color
(c) Decolorize the cell (d) None
- 6 Small pox vaccine was first developed by
(a) Robert Koch (b) Louise Pasteur
(c) Joseph Lister (d) Edward Jenner
- 7 If more than one stain is used, such staining is called
(a) Simple staining (b) Negative Staining
(c) Differential staining (d) Monochrome staining
- 8 In a fluorescent microscope the objective lense is made up of
(a) Glass (b) Quartz
(c) Polythene (d) None
- 9 In electron microscope source of electron is from
(a) Mercury Lamp (b) Tungsten metal
(c) Both A&B (d) None
- 10 Source of light in fluorescence microscopy is from
(a) Mercury Lamp (b) Sunlight
(c) Both A& B (d) None

①

(P.T.O.)

Q.2 A State whether the given statements are true or false. 02

- 1 The main feature of Prokaryotic organism is absence of nuclear envelop.
- 2 Acridine dyes are more effective against Gram-ve bacteria.

B Fill in the blanks with appropriate answer. 06

- 1 Most Bacterial capsules are made up of _____
- 2 Antiseptic surgery was discovered by _____
- 3 During conjugation the genetic material is transferred through _____
- 4 Acid fast staining is used for the diagnosis of _____
- 5 The 3D images can be seen with _____ microscopy
- 6 Bacterial cell without flagellum is known as _____

Q.3 Give SHORT answers to the following questions. (Attempt Any ten) 20

- 1 What is Pilli?
- 2 Write in brief about Sheath.
- 3 What is Prosthecae?
- 4 What is Cyst?
- 5 Write in brief about outer membranc of Gram -vc Bacteria.
- 6 Define Colony.
- 7 Enlist the steps of Gram Staining.
- 8 Write about significance of phase contrast microscopy.
- 9 What is Supravital staining? Cite example.
- 10 What is Phagocytosis?
- 11 What is dark field microscopy? Give it's uses.
- 12 Differentiate between dye and stain.

Q.4 Answer the following LONG Question:- (Attempt any four) 32

- 1 Describe the ultrastructure of bacterial flagella.
- 2 Describe in detail about bacterial endospore.
- 3 Koch's Postulates
- 4 Discuss the historical developments in the field of agricultural and industrial microbiology.
- 5 Write detailed note on Gram Staining.
- 6 Role of Mordents in staining.
- 7 Principle and Working of SEM
- 8 Detailed note on Bright field microscopy.