

[10/A-5]

SARDAR PATEL UNIVERSITY

Seat no. \_\_\_\_\_

B Sc SEMESTER III EXAMINATION : DEC-2019

FUNDAMENTAL OF MICROBIOLOGY

(US03CMIC01: MICROBIOLOGY)

Date: 06/12/2019

Time: 2:00 to 5:00

Day: Friday

Total marks: 70

N.B: Figures on the right indicate marks.

**Multiple Choice Questions: -****10****Q.1 Answer both code and word compulsorily.**

- 1 The basic technique of plugging the bacterial culture tubes with cotton was initiated by \_\_\_\_\_.
  - (a) H Schroder and T von Dusch
  - (b) J. Lister
  - (c) A. Flaming
  - (d) Schulze & Schwann
- 2 Who observed microbes for first time and had hobby of \_\_\_\_\_.
  - (a) Glass painting
  - (b) Viewing through binocular
  - (c) Lens grinding
  - (d) Glass manufacturing
- 3 In which staining, cells is stained and background remains unstained?
  - (a) negative
  - (b) special
  - (c) Differential
  - (d) positive
- 4 Acid fast stining is used for the preliminary diagnosis of \_\_\_\_\_.
  - (a) AIDS
  - (b) tuberculosis
  - (c) syphilis
  - (d) malaria
- 5 To observe intracellular structure \_\_\_\_\_ technique is used in EM.
  - (a) Smearing
  - (b) Supravital staining
  - (c) Thin sectioning
  - (d) Ultra thin sectioning
- 6 The bacterial endospores are resistance to \_\_\_\_\_.
  - (a) Staining
  - (b) Radiation
  - (c) Heat
  - (d) All of the options
- 7 Bacterial cell with a polar flagellum is known to have \_\_\_\_\_ arrangement.
  - (a) Peritrichus
  - (b) monotrichus
  - (c) amphitrichus
  - (d) lophotrichus
- 8 The prostheca functions in \_\_\_\_\_.
  - (a) absorb nutrients
  - (b) locomotion
  - (c) Survival
  - (d) All of above.
9. The 3D images can <sup>be</sup> seen with \_\_\_\_\_ microscopy.
  - (a) phase contrast
  - (b) bright field
  - (c) SEM
  - (d) TEM

(P.T.O)

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10. The principle of Emitting longer wavelength of light and less energy is used in \_\_\_\_\_ microscopy.
- (a) phase contrast                      (b) Fluorescence  
(c) SEM                                      (d) TEM

**Q.2 Give short answers to the following questions. 20**  
**Attempt Any Ten**

- 1 What is Phagocytosis?
- 2 Write contribution of S. Luria.
- 3 Who had discovered the free living N<sub>2</sub> fixing bacteria? Write role of the them in agriculture microbiology
- 4 What is supravital staining? Site the example.
- 5 Write the principle of simple staining.
- 6 Differentiate between intensifier and mordant.
- 7 What are pili? Write its importance.
- 8 Give brief idea of murine layer?
- 9 Draw labelled diagram of Gram positive cell wall.
- 10 Write significance of immune florescence technique in microscopy.
- 11 Give brief view on Dark ground microscopy.
- 12 Write significance of phase contrast microscopy.

**Answer following LONG Question:-**

**Q.3 Write in detail note on abiogenesis and biogenesis. 10**

**OR**

**Q.3 Narrate the contributions of 06**  
A) Louis Pasteur.

B) Edward Jenner. 04

**Q-4 Write an essay on chemistry of dyes. 10**

**OR**

**Q-4 a What is Gram variability? Give procedure of Gram's staining. 05**

b Usefulness of fixation and decolorization in staining process. 05

**Q-5 a Write shore note on bacterial capsule. 05**

b Describe the ultra structure of bacterial flagella. 05

**OR**

**Q-5 Write a note on bacterial endospore. 10**

**Q-6 Write descriptive note on bright field microscopy. 10**

**OR**

**Q-6 Write descriptive note on TEM. 10**

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