

P. S. SCIENCE & H. D. PATEL ARTS COLLEGE, KADI

Internal Examination

B. Sc. SEM - IV

[Mark : 40

11-3-2017]

CC Biotechnology - 402

[1-30 to 3-30

Fundamentals of Microbiology

1. Answer all questions. Each question carries 1 mark. 10

- (1) Name the two capsid symmetry that defines the shape of viruses.
- (2) Fungi are important to food webs because
 - (a) They are photoautotrophs
 - (b) They serve as key decomposers of dead organic matter.
 - (c) They have prokaryotic cell structure
 - (d) They generate antibiotics that kill competing plant and animals
- (3) What is Binomial Nomenclature ?
- (4) Sulphur and Iron oxidizing bacteria are examples of _____ organisms.
 - (a) Photolithotrophic
 - (b) Photoorganotrophic
 - (c) Chemolithotrophic
 - (d) Chemoorganotrophic
- (5) Give two name of enzymes that neutralize the toxic effect of oxygen in aerobic bacteria.
- (6) The term facultative anaerobe refers to an organism that
 - (a) Doesn't use oxygen but tolerates it
 - (b) requires less oxygen than is present in air
 - (c) Is killed by oxygen
 - (d) Uses oxygen when present or grows without oxygen when absent
- (7) Which of the following is most effective for sterilizing mattresses and plastic petri plates ?
 - (a) Chlorine
 - (b) Ethelene oxide
 - (c) Glutaraldehyde
 - (d) Ultraviolet radiation

- (8) Which of the following compounds are commonly used as general antiseptics to treat cuts and scratches ?
- (a) Aldehydes (b) Ethylene oxide
(c) Halogens (d) None of these
- (9) Filters that are used to trap bacteria have pore size of ____.
- (a) $0.22 \mu\text{m}$ (b) 0.3 mm (c) $0.3 \mu\text{m}$ (d) $0.45 \mu\text{m}$
10. Nystatin is a drug used for treatment of diseases caused by
- (a) gram negative bacterium (b) gram positive bacterium
(c) yeast (d) protozoan

2. Answer any four questions.

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Each question carries 5 marks.

- (1) Draw a labeled diagram Lytic & Lysogenic cycle of Bacteriophage reproduction.
- (2) Describe the economic importance of Algae.
- (3) Write about Bergey's Manual of Systematic Bacteriology.
- (4) Describe the types of bacteria based on Nutritional requirement.
- (5) Describe the Major characteristic of Bacteria.
- (6) Describe the Mode of action and application of Phenolic compounds and Heavy metals.

3. Answer any 1 question. Question carries 10 marks.

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- (1) Describe phases of microbial growth curve in detail and explain the methods for measurement of live bacteria.
- (2) Enlist physical methods of microbial control and explain temperature as physical control agent.