

**S.Y.B.SC. SEM – IV (CBCS - 2016 COURSE) : SUMMER - 2018**

**SUBJECT: MICROBIOLOGY: APPLIED MICROBIOLOGY**

Day : **Saturday**  
Date : **21/04/2018**

**S-2018-0668**

Time: **11.00 AM TO 02.00 PM**  
Max. Marks: 60.

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**N.B.:**

- 1) All questions are **COMPULSORY**.
  - 2) Figures to the **RIGHT** indicate full marks.
  - 3) Draw neat labeled diagrams **WHEREVER** necessary.
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**Q.1** Attempt any **TWO** of the following: (12)

- a) What are indicator organisms? Name them and give their significance and diagnostic count indicative of faecal pollution.
- b) Describe different buffering agents used in the fermentation.
- c) What is Giant colony technique? What is its significance?

**Q.2** Attempt any **TWO** of the following: (12)

- a) Enlist different substrates used for fermentation. Explain any one.
- b) Describe and give the significance of completed test.
- c) Draw the structure of penicillin molecule. Name the different R groups as used in semisynthetic Penicillin's.

**Q.3** Attempt any **TWO** of the following: (12)

- a) Explain the design and working of a septic tank.
- b) Describe in detail the sewage treatment for small communities by oxidation ponds.
- c) What is continuous fermentation? Give its significance, advantages and disadvantages.

**Q.4** Attempt any **THREE** of the following: (12)

- a) What are stock cultures? How are they preserved?
- b) How are UV rays useful in disinfection of water? Give the mechanism underlying the action of it.
- c) Describe the design of a typical fermentor.
- d) What is tertiary treatment? Give its significance.

**Q.5** Explain/ Define/ Comment on/ Draw a well labeled diagram of (Any **Four**) (12)

- a) Algal blooms
- b) Reverse osmosis
- c) Recycling of water
- d) BOD
- e) Phage in fermentation

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