

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2017  
(Sixth Semester)

Branch- MICROBIOLOGY

MICROBIAL ECOLOGY

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer ALL questions

ALL questions carry EQUAL marks - (10 x 2 = 20)

- 1 Biodiversity
- 2 Food web
- 3 Composting
- 4 Zooglea ramizera
- 5 „ Biodeterioration
- 6 Halophiles
- 7 Mycorrhizae
- 8 Collectatrichum falcatum
- 9 Bioleaching
- 10 Biofuels \*

SECTION - B (25 Marks)

' Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 5 = 25)

- 11 a Write about community succemion .  
OR  
b Write about ecological pyramids.
- 12 a Write about activated sludge system.  
OR  
b Write about solid waste recycling.
- 13 a Write a note on biological treatment of dyes.  
OR  
b Explain about biodeterioration of leather.
- 14 a Give a brief account on microbial population in rhizoplane and phyllosphere.  
OR  
b Write a note on rust disease of castor.
- 15 a Write a note on Bioleaching.  
OR .  
b What are indicator organisms and their role in water quality?

SECTION - C (30 Marks!)

Answer any THREE Questions

ALL Questions Carry EQUAL Marks (3 x 10 = 30)

- 16 Give a detailed account on Darwin's theory of natural selection.
- 17 Write in detail about various level of treatment of waste water.
- 18 . Elaborate the impact of heavy metal toxicity on human beings.
- 19 Write about the interaction of VAM micorrhizal association with plant.
- 20 State the production of biofuel from agricultural wastes and its

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Maximum : 75 Marks

SECTION-A (20 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10 x 2 = 20)

- 1 Define capsid.
- 2 Define gnotobiotic animal.
- 3 What is prophage?
- 4 Define reverse transcriptase.
- 5 Define CPE.
- 6 What are inclusion bodies?
- 7 Expand PFU.
- 8 Define virion.
- 9 What are prions?
- 10 Name any two DNA viruses.

SECTION - B (25 Marks!)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 5 = 25)

- 11 a Write a short note on general properties of viruses.  
OR  
b Write a note on viral composition and its significance.
- 12 a Write a note on biological assay On viruses.  
OR  
b Explain various methods of detection of viruses.
- 13 a Explain about the lytic cycle of lambda phage.'  
OR  
b Explain the rolling circle replication of a single stranded DNA phages.
- 14 a Explain replication and transcription RNA viruses.  
OR  
b Explain the general steps of viral replication.
- 15 a Write in detail about baculoviruses.  
OR  
b Write a note on various modes of plant viral transmission.

SECTION - C (30 Marks!)

Answer any THREE Questions

ALL Questions Carry EQUAL Marks (3 x 10 = 30)

- 16 Write in detail about the various structural properties of viruses.
- 17 Classify oncogenic viruses and write in detail about oncogenicity.
- 18 Write in detail about the various methods of cultivation of viruses.
- 19 Write in detail about the life cycle of T4 phages with suitable diagram.
- 20 Write in detail about types, properties and applications of bacteriophages.

**Z-Z-Z**

**END**