

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2022  
(Second Semester)

Branch – BIOCHEMISTRY

MICROBIAL BIOCHEMISTRY

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (5 x 1 = 5)

1. Which one out of the following enzymes acts in the pentose phosphate pathway?  
a) Aldolase  
b) Glycogen phosphorylase  
c) Pyruvate kinase  
d) 6-Phosphoglycerate dehydrogenase
2. What is the other name of lecithin?  
a) Phosphatidylcholine  
b) Phosphatidyl serine  
c) Cardiolipin  
d) Spingomyelins
3. The optimum temperature for photosynthesis is  
a) 25-35°C  
b) 10-15°C  
c) 35-40°C  
d) 20-25°C
4. Precursor of glycine is  
a) Proline  
b) Glutamine  
c) Serine  
d) Glutamate
5. In protoplast fusion, the lack of allows the plasma membrane of two or more protoplast to come into intimate contact  
a) cytoplasmic membrane  
b) cell wall  
c) cell membrane  
d) nuclear membrane

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 3 = 15)

- 6 a Describe HMP pathway.  
OR  
b Short note on PK pathway.
- 7 a Write three types of fatty acids oxidation.  
OR  
b Discuss the synthesis of hydroxyl fatty acids.
- 8 a Write note on Peptidoglycan.  
OR  
b What are Carotenoids?
- 9 a Short note on synthesis of glutamine.  
OR  
b Describe the methionine pathway.
- 10 a What is Bioreactor and its types?  
OR  
b Describe protoplast fusion.

Cont...

**SECTION -C (30 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

11 a Elucidate the TCA cycle.

OR

b Describe the glycolysis pathway.

12 a Explain the biosynthesis pathway of straight chain fatty acids.

OR

b Sketch on the biosynthesis of Spingolipids.

13 a Discuss briefly about prokaryotic cell surface and structure.

OR

b Explain the photophosphorylation.

14 a Illustrate the biosynthesis of Tyrosine and Tryptophan.

OR

b Describe the biosynthesis pathway of pyruvate family.

15 a Describe the primary and secondary screening process.

OR

b Design the steps in SSF advantage and application.

Z-Z-Z

END