

Roll No.....

Total No. of Sections : 03

Total No. of Printed Pages : 03

Code No. : 02/307(A)

Second Semester Examination, May-2018

M.Sc. MICROBIOLOGY

Paper - III

MICROBIAL PHYSIOLOGY

Time : 3 Hrs.

Max.Marks : 80

Note : Section 'A' consists of 10 very short answer type questions, all of which are compulsory and should be attempted first. Section 'B' consists of four short answer type questions with internal options. Section 'C' consists of four long answer type questions with internal choice.

Section - 'A'

Answer the following very short-answer-type questions in one or two sentences : (2×10=20)

- Q.1 What is entropy?
- Q.2 Write two features of bacteriochlorophyll.
- Q.3 What is assimilatory power?
- Q.4 Distinguish between hydrogen acceptor and electron acceptor.
- Q.5 What is Pasteur's effect?
- Q.6 Which enzyme of the Krebs cycle is membrane bound?
- Q.7 What is redox potential?
- Q.8 What is cyanide resistant respiration?
- Q.9 Write two properties of amino acids.
- Q.10 What is amphibolic pathway?

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Section - 'B'

Answer the following short-answer-type questions with word limit 200-250 : (5 4=20)

Q.1 Distinguish between Entropy and Enthalpy.

OR

Write five points of differences between chlorophyll and bacteriochlorophyll.

Q.2 Explain Red drop and Emerson effect.

OR

Carbon fixation is not the monopoly of green plants alone. Justify the statement.

Q.3 Write salient features of glycolate pathway.

OR

Describe lactic acid fermentation.

Q.4 Describe biosynthesis of peptidoglycans.

OR

Explain polyamines.

Section - 'C'

Answer the following long-answer-type questions with word limit 400-450 : (10 4=40)

Q.1 Discuss the basic principles of bioenergetics.

OR

Describe the structure of chlorophyll 'a' and add a note on its biosynthesis.

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Q.2 Give an account of non-cyclic electron transport during photophosphorylation in bacteria.

OR

Distinguish between C3 and C4 carbon pathway in photosynthesis.

Q.3 Give an account of EMP pathway.

OR

What is heterolactic fermentation? Explain with suitable examples.

Q.4 Describe biological nitrogen fixation.

OR

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Describe the biosynthesis of Glycine and Serine.

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