Roll No..... Total No. of Printed Pages : 4

Code No. : B02/307

Second Semester Online Examination, May-June, 2022

M. Sc. MICROBIOLOGY

Paper III

MICROBIAL PHYSIOLOGY AND METABOLISM

Time : Three Hours] [Maximum Marks : 80

Note : *Part A and B of each question in each unit consist of 'very short answer type question' which are to be answered in one or two sentences. Part C 'Short answer type' and D 'Long answer type' of each question should be answered within the word limit mentioned.*

UNIT-I

1. (A) What are electron carriers ? **2**

(B) Define enthalpy ? **2**

(C) What is oxidative phosphorylation.

(word limit 200-250) **4**

OR

Write a short note on uncouplers of electron transport system with examples.

(D) Write a detail account of photosynthetic and acessory pigments.

(word limit 400-450) **12**

P.T.O.

OR

What is stringent response in bacteria ? Explain the function of ppGpp in the stingent response.

UNIT-II

2. (A) What is Luminescence ? **2**

(B) Define chemolithotropy ? **2**

(C) Write a short note on methanogenesis.

(word limit 200-250) **4**

OR

Describe calvin cycle with diagram ?

(D) Explain oxygenic and an-oxygenic photosynthesis with diagram.

(word limit 400-450) **12**

OR

What are chemolithotrophs ? Describe Sulphur and Nitrogen oxidation by chemolithotrophs ?

UNIT-III

3. (A) What is Gluconeogenesis ? **2**

(B) What is the difference between homolactic and heterolaclic fermentation ? **2**

(C) Write a short note on pasteur effect ?

(word limit 200-250) **4**

OR

Describe substrate level phosphorylation.

(D) Describe in detail Enter-Doudroff pathway

(word limit 400-450) **12**

OR

Explain Kreb's cycle steps and its significance in detail.

UNIT-IV

4. (A) Define polysaccharides ? **2**

(B) What are polyamines ? **2**

(C) Write a short note on deamination ?

(word limit 200-250) **4**

OR

Explain the synthesis of peptidoglycan.

(D) Define biological nitrogen fixation and explain its importance.

(word limit 400-450) **12**

OR

What are the major families of amino acid biosynthesis ? Explain the synthesis of Glycine ?

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