



PS-003-019402

Seat No. _____

**M. Sc. (Microbiology) (Sem. IV) (CBCS)
(W.E.F. 2010) Examination**

August - 2020

MICRO-420 : Extremophiles

Faculty Code : 003

Subject Code : 019402

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- 1 Answer the following : (Any seven out of Ten, each of 02 marks) **14**
- (1) What are methanogens used for ?
 - (2) What are some examples of acidophiles ?
 - (3) What are some examples of barophiles ?
 - (4) What is the salt-in strategy ?
 - (5) Who are etremozymes ?
 - (6) What are methanogens ?
 - (7) What is osmoregulation ?
 - (8) Which organism is considered a moderate Halophile ?
 - (9) Which organism is considered a Psychrophile ?
 - (10) Give an example of Acidophils ?
- 2 Answer the following : (Any two out of three, each of 07 marks) **14**
- (a) What are eukaryotic extremophiles ? Describe.
 - (b) What is the extreme environment ? Briefly discuss.
 - (c) Write a note on "Life at high pH".
- 3 Answer the following : ((a) and (b) - Both are compulsory, each of 07 marks) **14**
- (a) What are the distinguishing features of archaea ? Describe.
 - (b) Write a note on the taxonomic position of archaea.

OR

- 3** Answer the following : ((a) and (b) -Both are compulsory, 14 each of 07 marks)
- (a) What is the physiology of Archaea ?
 - (b) What are the biotechnological applications of archaea ?
- 4** Answer the following : (Any two out of three, each of 07 marks) 14
- (a) Write a note on applications of thermozyms.
 - (b) Describe the distribution and diversity of Acidophiles.
- 5** Answer the following : (Any two out of four, each of 07 marks) 14
- (a) Write a note on "Hyperthermophiles".
 - (b) Describe the physiology and genetics of Barophiles.
 - (c) Write a note on the Physiology and habitats of Methanogens.
 - (d) Write a note on "Syntrophy and Methanogenesis".
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