

PG/Bot/1st Sem/21(CBCS)

2021

BOTANY

Core - BOTA 101

[CBCS]

Full Marks : 40

Time : Two Hours

The figures in the margin indicate full marks.

INSTRUCTIONS TO THE STUDENTS

Answer should be brief and to-the-point; upper word limit of answer to be written for 01 mark question is 30 words, 02 marks question is 50 words, 03 marks question is 150 words, 05 marks question is 250 words and 10 marks is 500 words. The image of the answer script (must be numbered, either at the top or bottom of the answer sheet) should be clear and examinees must also follow the guidelines regarding the timeframe and other relevant instructions as informed to them by the authority concerned. Examinees should write their - Registration number & session, Roll & Number, Subject, Paper code legibly at the top of every page of their answer script.

Group - A

(Microbiology)

1. Answer any *four* of the following : 1×4=4
 - 1.1 Classify bacteria on the basis of temperature adaptability.
 - 1.2 What is signature sequence?
 - 1.3 What are the cardinal temperatures of bacterial growth?
 - 1.4 Define batch culture.
 - 1.5 Define sexduction? Where is it found?
 - 1.6 What is the function of *nif* gene?

2. Write brief note on any *two* of the following : 3×2=6
- 2.1 Metagenomics
 - 2.2 RecA protein
 - 2.3 Extremophiles
 - 2.4 Molecular characterization of bacteria for its identification.
3. Answer any *one* of the following : 10×1=10
- 3.1 Draw and label a typical bacterial growth curve. Discuss the function of each step. 2+8
 - 3.2 Define operon. Briefly describe the regulation of *Lac* operon. State its significance in prokaryotic lifeforms. 2+6+2

Group - B
(Mycology)

4. Answer any *four* of the following : 1×4=4
- 4.1 What is glucan?
 - 4.2 Name two industrial fungi used in citric acid production?
 - 4.3 What is suffix used at subdivision level of fungal systematics.
 - 4.4 What is dolipore septum? Name one fungus bearing such structure.
 - 4.5 Name two entomopathogenic fungi.
 - 4.6 State two salient features of Zygomycotina.
5. Answer any *two* of the following : 3×2=6
- 5.1. What is Parasexuality? Mention its importance in fungi.
 - 5.2. Write a note on the 'sex-hormones' in fungi.
 - 5.3. Briefly discuss the architecture of cytoskeleton in fungi.
 - 5.4. Briefly discuss the symbionts of lichen.

6. Answer any *one* of the following : 10×1=10
- 6.1. Write an outline on the classification method of G.C. Ainsworth (1973) up to class level. State its merits. 8+2
- 6.2. What is mycosis? State the types and symptoms of mycosis in vertebrate. Why should we take care of treating mycoses at early stages? 1+7+2
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