M.Sc. End Semester Examination – IV, 2020

BOTANY

Course No. BOT- 402

Full Marks: 40

Time: 2 hours

Answer any **one question** preferably within 250 words from your offered special paper

Special Paper 402: ANGIOSPERM TAXONOMY

1. Define taxonomy. How is it differ from systematics. What is flora and how it differs from vegetation? Explain.
2. Describe the applications of cytology and palynology in deciphering taxonomic positions.
3. What are IUCN categories of threatened plants? Briefly describe about ICN and ICBN.
4. Differentiate between Plesiomorphy and Apomorphy. What does it mean by Monophyly?
5. What is meant by APG System of Classification? Mention three important principles of APG System of Classification.
6. Define biodiversity. What are the different levels of biodiversity? Mention the number of hotspots in the world. Name the hotspots of India.
7. Mention the primary activities of Botanical Survey of India (BSI).
8. Define chemotaxonomy and write its applications.
9. Differentiate between *ex-situ* and *in-situ* conservation. Write different type of *in-situ* conservation with example.

10. Give brief idea of ‘paleoherbs’ and ‘eudicots’. Write down the taxonomic significance of macro- and micro morphological characters in angiosperms.
11. What is biome? Briefly describe the concept, classification and characteristics of a terrestrial biome.
12. Discuss Paraphyly, Polyphyly and Homology with examples

Special Paper 402: MICROBIOLOGY

1. Mention different steps for cultivation of animal viruses.
2. Discuss diauxic growth with example.
3. Write short note on green non- sulfur bacteria.
4. Discuss the structure of nitrogenase enzyme.
5. Mention structure and function of leg-haemoglobin.
6. Mention role of different oncogenes in cancer formation.
7. Compare c-DNA library with genomic library. Mention their applications..
8. Write down mode of action and applications of amylase.
9. Write down mode of action of penicillin in bacteria.
10. Mention stages of biofilm formation. Mention its clinical significance.
11. Define pure culture and mention its isolation process. Distinguish between batch culture and continuous culture
12. Write notes on i) topoisomerase and ii) plant-microbe interaction.