

**M.Sc. (BIOTECHNOLOGY) SEMESTER II,
ONLINE EXAMINATION, AUGUST 2021
PAPER CODE - MBT-CC204**

**PAPER TITLE: BIOTECHNOLOGY: ENVIRONMENTAL & ETHICAL
ASPECTS**

Time: Three Hours

Maximum Marks: 75

Attempt all questions. Use only A4 sheets. All parts of a question must be attempted in continuation. Start answer of a fresh question on a new page. Cite examples and draw labelled diagrams wherever necessary.

Question No. 1.

Attempt all of the following.

A. Write full form of the following acronyms.

[1 × 5 = 5]

- i. GEAC
- ii. RCGM
- iii. UPOV
- iv. NAEB
- v. OECD

B. Answer the following in not more than 50 words.

[2 × 5 = 10]

- i. Predatory journal
- ii. Two distinct risks associated with *in-situ* conservation of biodiversity
- iii. Green audit
- iv. Bio-magnification
- v. Two disadvantages of phytoextraction.

Question No. 2.

Attempt any three questions from the following

[5 × 3 = 15]

- a) Why gene banks are crucial for maintaining biodiversity?
- b) Do biofuels provide an ultimate solution to the impending energy crisis? Differentiate between first and third generation biofuels.
- c) What is the importance of nutrient removal from the wastewater before its disposal?
- d) Give a detailed account of the characteristics of the recalcitrant xenobiotics.
- e) Briefly enumerate the objectives of NAP scheme.

Question No. 3

Attempt any two questions from the following

[7.5 x 2 = 15]

- a) Discuss in detail the *Azolla-Anabaena* symbiotic association.
- b) What is the principle of vermicomposting? Briefly discuss various phases of vermicomposting.
- c) What are the criteria of a good bioindicator? Explain any two types.
- d) How arbuscular mycorrhizal fungi contribute in improving phosphorus uptake in plants?

Question No. 4.

Write short notes on any three of the following:

[5 x 3 = 15]

- a) Role of IPR in the growth of biotechnology.
- b) GLP and GMP
- c) Clinical trials
- d) Recombinant DNA safety
- e) Biological containment

Question No. 5.

Attempt any one of the following.

[1 x 15=15]

- a) What is plagiarism? Two groups from different laboratories of a same institute submit manuscripts at an interval of four months on exactly same method for estimation of an enzyme activity. Enquiry revealed no evidence of direct or indirect exchange of information between the two labs. Would the group who submitted their manuscript later be charged for plagiarism? Justify your answer.

OR

- b) What is primary succession? How do lichens contribute to primary succession? Why does secondary succession occur faster than primary succession?

It should be noted that 60 minutes extra time will be provided to scan your answer sheets, build a PDF and upload it to
biotechnologyexam2020@gmail.com

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