

2020

MICROBIOLOGY — HONOURS — PRACTICAL

Paper : DSE-A-1P

(Microbial Biotechnology)

Full Marks : 30

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

1. Describe the preparation of yeast-alginate beads in a flow chart form mentioning the requirements. Explain the utility of cell immobilisation briefly. 7+3
 2. Discuss the principle of detection of Lipase producing bacteria from soil mentioning the chemical reaction involved in detection of lipase production. 7+3
 3. Viva voce and Laboratory Notebook. 10
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2020

MICROBIOLOGY — HONOURS — PRACTICAL

Paper : DSE-A-2P

(Advances in Microbiology)

Full Marks : 30

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

1. Purification of community genome from soil sample can be performed by different techniques.
 - (a) Mention two different methods of isolation stating the basic difference between them.
 - (b) How can you assess the purity of the isolated community DNA? 3+3

 2. Write the procedure of community genome extraction by Hot-SDS-lysis method. 4

 3. PCR amplification of 16S rDNA from community genomic DNA isolated from two different soil samples were performed. One sample gave good PCR product however sample 2 did not yield any product.
 - (a) Mention the composition of PCR reaction mix and the cycling parameters.
[Given : T_m of 16S rDNA forward and reverse primers are 65°C and 67°C respectively. The length of the amplified product is 1.5 kb] 3+3
 - (b) Upon examination it was revealed that sample 2 contains a major inhibitor of PCR.
 - (i) What would be the inhibitor?
 - (ii) How can you remove it from the DNA sample for a successful PCR? 1+3

 4. Viva voce and Lab Manual. 10
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