

M.Sc. 2nd Semester Examination, 2023

MICROBIOLOGY

[Practical]

PAPER – MCB-295.1

Full Marks : 25

Time : 2 hours

The figures in the right hand margin indicate marks

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

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|---|---|
| 1. Present and discuss your topic of group project | |
| (a) Submission (2 copies) | 7 |
| (b) Discussion | 7 |
| (c) Viva voce | 6 |
| (d) Internal Assessment | 5 |
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M.Sc. 2nd Semester Examination, 2023

MICROBIOLOGY

(Biomathematics and Bioinformatics)

[Practical]

PAPER – MCB-295.2

Full Marks : 25

Time : 2 hours

The figures in the right hand margin indicate marks

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

1. Download the *fasta* sequence of the protein having supplied accession number and perform the following tasks- $5 + 2\frac{1}{2}$
 - (a) Perform the homology modeling of the protein and assess the quality of the best 3D model.
[Work-2, Result-2, Comment-1]

(b) Evaluate the secondary structure of the protein.

[Result & Comment - 2.5]

2. Determine the mean, median, standard deviation from the given data set (Set-1). Save the excel file in the computer desktop with your roll no.

Or

Draw a suitable graphical representation of the following data (Set-2). Save the excel file with graph in the computer desktop with your roll no.

$3\frac{1}{2}$

3. The weights (kg) of 6 male and 6 female students are given (Set-3). Determine whether there is a significant difference between these group's mean through online available software. Write down the name of the tool and results you obtained. Save your findings in MS-word file in the computer desktop with your roll no.

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4. Laboratory note book

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|-------------------------|---|
| 5. Viva-voce | 3 |
| 6. Internal Assessment. | 5 |
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