

UG (Semester -I) Examination 2023 (Session 2023-2027)- Model Questions

Subject: Botany,

Paper- MJC-1

[MUM.UG(I).Bot.(MJC-1)

Time: 3 Hours

Full Marks: 70

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

Figures in the margin indicate full marks.

Answer from all the groups as directed.

Question No.-1 is compulsory.

Section A

1. Select the correct answer from the given options: 10x2=20

(a) According to Whittaker's classification, organisms belonging to which kingdom do not have a well defined nucleus?

- | | |
|-------------|------------|
| 1) Protista | 2) Fungi |
| 3) Monera | 4) Plantae |

(b) Who is popularly known as the "Father of Phycology"

- | | |
|------------|-------------|
| 1) Fritsch | 2) Papenfus |
| 3) Smith | 4) Morris |

(c) *Volvox* belongs to which of the following classes of algae

- | | |
|------------------|------------------|
| 1) Chlorophyceae | 2) Phaeophyceae |
| 3) Rhodophyceae | 4) Chrysophyceae |

(d) *Chlorella* is not

- | | |
|---|--------------------------|
| 1) An unicellular alga | 2) Rich in protein |
| 3) Used as food supplement even by space travellers | 4) Used to grow microbes |

(e) Which of the following is not a described type of virus

- 1) A virus containing double strand DNA

2) A virus containing single strand DNA

3) A virus containing single strand RNA and single strand DNA

4) A virus containing a single strand RNA

(f) The genetic material in tobacco mosaic virus is

1) ssDNA

2) ssRNA

3) dsRNA

4) dsDNA

(g) In which of the following patterns of viral replication, viruses enters a cell, replicate and then causes the cell to burst, releasing new viruses

1) Lytic

2) Lysogenic

3) Both

4) None

(h) Which bacterial reproductive process does not involve any genetic recombination

1) Transduction

2) Conjugation

3) Binary fission

4) Transformation

(i) Archaeobacteria differ from eubacteria in

1) Cell membrane structure

2) Mode of nutrition

3) Cell shape

4) Mode of reproduction

(j) Which of the following is not a nitrogen fixing organism?

1) *Anabaena*

2) *Nostoc*

3) *Azotobacter*

4) *Pseudomonas*

Section B

2. Write short notes on any four of the following: 4x5=20

(a) Reproductive organs of Chara [5]

(b) Structure of TMV [5]

(c) Biological nitrogen fixation [5]

(d) Mycoplasma [5]

(e) Contribution of F.E. Fritsch [5]

(f) Whittaker's five kingdom classification [5]

Section C

Answer any three questions of the following: 3x10=30

- 3. Describe the thallus structure and reproduction in Nostoc.[5+5]**
- 4. Describe lytic and lysogenic cycle of viruses. [5+5]**
- 5. Give an account of genetic recombination in bacteria. [10]**
- 6. Describe the classification of plant kingdom and mention its important features. [5+5]**
- 7. Give an elaborate account of the use of algae in food and fuel production. [5+5]**