B.Sc. Semester VI (Hons) CBCS Examination 2022
Subject: Botany
Paper: DSE 3
(Marine Biology and Phycotechnology)

FM-40 **Time: 2 h**

A. Answer any <u>five</u> from the following- **2×5 = 10**

1. Name two marine algae belonging to Rhodophyceae.
2. What is meant by Carrageenan?
3. State four important medicinal uses of Marine algae.
4. Name two algae used for production of Biodisel.
5. What is SCP? Give example.
6. Give example of two dinoflagellate algae.
7. Define sea weeds with suitable example.
8. What is meant by corallina algae? Give example.

B. Answer any <u>two</u> from the following- **5×2 =10**

1. Define Phycocolloid . Mention different types of Phycocolloid with suitable example.

2.Describe any two important sea weeds in India and its significance.

3.Classify the sea weeds on the basis of pigments with suitable example

4.Give a brief account on the distribution of sea weeds.

C. Answer any <u>two</u> from the following- **10×2 =20**

1. What do you mean by planktonic marine algae? mention any one group with its importance. Brief notes on Medicinal uses of Marine algae both traditional and Modern aspect.

2. Describe the uses of microalgae on Biodiesel and H_2 production. What do you mean by Photo bioreactor? Mention its major uses.

3. Elaborate seaweeds cultivation in India

4. Write the significance of Dinoflagellates and Diatom in marine environment.

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B.Sc. Semester VI (Hons) CBCS Examination 2022
Subject: Botany
Paper: DSE 3
(Phytoremediation and Immunology)

FM-40 **Time: 2 h**

A. Answer any <u>five</u> from the following- **2×5 =10**

1. What is Phytovolatization?
2. State four Advantages of Phytoremediation.
3. Give two example of metal hyperaccumulator
4. Define metal indicators
5. What is Phytostimulation?
6. What is adaptive immunity?
7. Comment on RIA
8. What are B and T cell epitopes?

B. Answer any <u>two</u> from the following- **5×2 =10**

1. Define phytoremediation. Differentiate between phytoextraction and phytodegradation.
2. Briefly discuss the role of phytochilatins in phytoextraction.
3. Mention the advantage and disadvantages of phytoremediation.
4. Discuss the role of metalophytes in phytoremediation.

C. Answer any <u>two</u> from the following- **10×2 =20**

1. What are vaccines? Mention different types of vaccines. Differentiate between active and passive immunity with suitable examples.
2. What is ELISA? Briefly discuss. What are cytokines? Mention their properties and functions.
3. Differentiate between humoral and cell mediated immunity. Comment briefly on the factors effecting immunogenesity.
4. Write a short note on structure and function of Major Histocompatibility Complex (MHC). Comment on functions of different classes of immunoglobulins.

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B.Sc. Semester VI (Hons) CBCS Examination 2022
Subject: Botany
Paper: DSE 3
(Plant Evolution and Biodiversity)

FM-40 **Time: 2 h**

A: Answer any <u>five</u> from the following- **2X5 = 10**

1. What is a basal angiosperm?
2. What is the ANITA group?
3. Comment on early earth atmosphere.
4. Mention two xerophytic adaptations of plants.
5. What are endosymbiont and endosymbiosis.
6. Define the First cell.
7. What is plant archetype?
8. What is RNA world hypothesis?

B. Answer any <u>two</u> from the following- **5X2 = 10**

1. Is there any role of Endo symbiosis in the evolution of Eukaryotes? Describe.
2. Classify aquatic and wetland plants with examples. Describe their adaptation.
3. Describe the characteristics features of plants of moist shady habitats (Sciophytes).
4. Give a brief idea on evolution of vascular plants from non-vascular plants.

C. Answer any <u>two</u> from the following **10X2 = 20**

1. What are the differences between Artificial Selection and Natural selection? What are the theories on origin of life?
2. What are the characteristics of Basal Angiosperms? Name the classes of Basal Angiosperms. What is the full form of APG IV system of Classification? Mention the CLADE and ORDERS of this system of Classification.
3. How Basal angiosperms differ from Monocots and Eudicots? Write a short note on Natural selection.
4. Elaborate the adaptations in halophytes with suitable examples.

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