R2850

Sub. Code
92BPEL

M.Sc. DEGREE EXAMINATION, APRIL – 2025

Second Semester

Integrated Marine Biology

PROFESSIONAL ENGLISH FOR LIFE SCIENCES — II

(CBCS – 2020 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the following objective type questions by choosing the correct option.

1. What is TED Talk? (CO1, K2)

   (a) Talking English fluently

   (b) Teaching English In Distance

   (c) Technology, Entertainment, and Design

   (d) Technical Error Detector

2. Give Antonym for the word 'Poverty"? (CO1, K2)

   (a) Ordinary

   (b) Abundance

   (c) Significant

   (d) Economical

3. A Dialogue is also defined as ———————— exchange? (CO2, K3)

(a) Verbal (b) Non-verbal

(c) Communication (d) Signal

4. What is the meaning of Metamorphosis? (CO2, K3)

(a) A complete Change of Form

(b) Unchangeable

(c) A very dangerous

(d) A game

5. A ———————— is usually designed to present and furnish data? (CO2, K3)

(a) Web Pages (b) Vlog

(c) Data connection (d) Fiction

6. JAM Stands for? (CO3, K3)

(a) Journalism and Media

(b) Just A Minute

(c) Junior Meeting

(d) Just for Making Fun

7. Video Conferencing means ————————? (CO3, K3)

(a) Listening and Speaking in Mobile

(b) Reading News

(c) Live visual connection between two or more people

(d) Watching Video

8. What is Microsoft Office (CO4, K2)

(a) A Company (b) Computer

(c) Application (d) Computer Program

9. ———————— is A study of sounds in a language? (CO5, K2)

(a) Literature (b) Physics

(c) Phonetics (d) Psychology

10. Find out Social Media? (CO5, K2)

(a) Power Point presentation

(b) Computer

(c) Facebook

(d) Microsoft Office

Part B (5 × 5 = 25)

Answer **all** the questions not more than 500 words each.

11. (a) Match the Vocabulary with their meaning.(CO1, K2)

	Vocabulary		Meaning
(i)	Devour	(1)	Full of problems
(ii)	Metamorphosis	(2)	A complete change of form
(iii)	Nook and cranny	(3)	Very dangerous and able to kill
(iv)	Problematic	(4)	Eat or do something quickly and completely
(v)	Lethal	(5)	Every place; everywhere

Or

(b) Find out synonyms for the following Words. (CO1, K2)

(i) Democracy

(ii) Emancipation

(iii) Slave

(iv) Justice

(v) Violence

12. (a) What is a persuasive Speech? and What are the uses of it? (CO2, K3)

Or

(b) Explain Ethos and Pathos in Persuasion. (CO2, K3)

13. (a) Write a debate on the topic "Mobile Phone is Useful or harmful to Education. (CO3, K3)

Or

(b) Write a Dialogue between Bank Manager and Student for applying Educational Loan. (CO3, K3)

14. (a) Explain the difference between creativity and imagination. (CO4, K3)

Or

(b) What are the features of Scientific Script Writing for short films? (CO4, K2)

15. (a) Explain the features of PowerPoint presentation. (CO5, K2)

Or

(b) What is Blog and explain the uses of it? (CO5, K2)

Part C (5 × 8 = 40)

Answer **all** the questions not more than 1000 words each.

16. (a) What is a Debate? Explain the Basic debating Skills. (CO1, K2)

Or

(b) Write a Debate on the topic "Science vs Nature". (CO1, K2)

17. (a) What is Vlogs and explain the benefits of it? (CO2, K3)

Or

(b) What are the Creative Skills in Script writing? (CO2, K3)

18. (a) Design a Poster with slogans on "Drug abuse". (CO3, K3)

Or

(b) What is Punctuation? And explain the Rules with examples. (CO3, K3)

19. (a) Discuss the advantages and disadvantages of different Circular, Minutes of meeting. (CO4, K3)

Or

(b) How do you create PowerPoint presentation and explain the merits and demerits of it on public speaking? (CO4, K2)

20. (a) Write an argumentative essay on the topic "Democracy". (CO5, K2)

Or

(b) Discuss the importance of Digital Competence in Higher Education. (CO5, K2)

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R2851	Sub. Code
	548201

M.Sc. DEGREE EXAMINATION, APRIL – 2025.

Second Semester

Integrated Marine Biology

CHEMICAL OCEANOGRAPHY

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the following objective questions by choosing the correct option.

1. The ionic composition of sea water remains constant due to ————————. (CO1, K2)

   (a) Temperature variations

   (b) Biological processes

   (c) law of constant proportions

   (d) Seasonal changes

2. The concept of chlorinity in seawater is used to measure ————————. (CO1, K2)

   (a) Density

   (b) Salinity

   (c) pH

   (d) Dissolved gases

3. The primary source of dissolved oxygen in seawater is ————————. (CO2, K2)

(a) Photosynthesis by marine plants

(b) Decomposition of organic matter

(c) Hydrothermal vents

(d) Chemical reactions

4. The CO_2 increase in seawater leads to ————————. (CO2, K2)

(a) Oxygen transport

(b) Nutrient cycling

(c) Ocean Acidification

(d) Temperature control

5. Anoxic conditions in seawater lead to the accumulation of ————————. (CO3, K4)

(a) Organic matter

(b) Platinum

(c) Silicon

(d) Sulfate

6. Which trace element is crucial for phytoplankton growth. (CO4, K4)

(a) Iron

(b) Lead

(c) Mercury

(d) Arsenic

7. The seasonal variation of organic matter in seawater is influenced by ————. (CO4, K4)

(a) Upwelling

(b) Biological productivity

(c) Riverine input

(d) All of the above

8. Growth-promoting and growth-inhibiting effects in seawater are controlled by ————. (CO5, K4)

(a) Temperature and salinity

(b) Availability of nutrients

(c) Light penetration

(d) All of the above

9. The silicon cycle in seawater is primarily associated with ————. (CO5, K4)

(a) Coral reefs

(b) Diatoms

(c) Marine bacteria

(d) Salinity changes

10. The ratio of carbon to nitrogen to phosphorus in seawater is commonly known as ————. (CO5, K4)

(a) Redfield Ratio

(b) Haber Ratio

(c) Carbonate Balance

(d) Liebig's Law

Part B (5 × 5 = 25)

Answer **all** the questions not more than 500 words each.

11. (a) Explain the oxidation reduction potential of seawater. (CO1, K2)

Or

(b) Write short notes on factors affecting constancy of seawater. (CO1, K2)

12. (a) Discuss the solubility of gases in seawater.(CO2, K2)

Or

(b) Explain the non reactive and minor reactive gases in seawater. (CO2, K2)

13. (a) Provide a detailed account on Anoxia and its effects to marine organisms. (CO3, K4)

Or

(b) Explain the interaction of minor elements with marine organisms. (CO3, K4)

14. (a) Give short notes on processes of primary production. (CO4, K4)

Or

(b) Explain about the process of diagenesis. (CO4, K4)

15. (a) Give a detailed account on origin and distribution of Nitrogen in seawater. (CO5, K4)

Or

(b) Write a detailed note on the significance of silicon in seawater. (CO5, K4)

Part C (5 × 8 = 40)

Answer **all** the questions not more than 1000 words each.

16. (a) Give an elaborate account on chemical properties of seawater. (CO1 K2)

Or

(b) Explain the chlorinity and salinity of seawater and add notes on its measurement. (CO1,K2)

17. (a) Explain the importance of CO2-CO3 systems in seawater. (CO2,K2)

Or

(b) Give notes on O2, N2, H2S and Methane in seawater. (CO2 ,K2)

18. (a) Describe in detail about the trace elements distribution in seawater. (CO3,K4)

Or

(b) Discuss in detail about Dissolved oxygen, BOD and COD in Seawater. (CO3 K4)

19. (a) Give an elaborate account of major and minor elements in seawater. (CO4, K4)

Or

(b) Discuss in detail about the Carbon Cycle with neat labeled sketches. (CO4, K4)

20. (a) Write a detailed account on the Nitrogen-Phosphorus levels and seasonal variations in the ocean. (CO5, K4)

Or

(b) Explain in detail about the origin, distribution and cycle of Silicon in the ocean. (CO5, K4)

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R2852

Sub. Code
2MB2A1

M.Sc. DEGREE EXAMINATION, APRIL – 2025

Second Semester

Integrated Marine Biology

Allied — GENERAL CHEMISTRY — II

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the following objective type questions by choosing the correct option.

1. Which oxidizing agent is commonly used in the manufacture of safety matches? (CO1, K2)

   (a) Potassium chlorate

   (b) Ammonium nitrate

   (c) Lead dioxide

   (d) Sodium nitrate

2. What is the primary reason for using cathodic protection in corrosion prevention? (CO1, K1)

   (a) To increase oxidation at the anode

   (b) To reduce metal ion concentration in the electrolyte

   (c) To make the protected metal act as a cathode

   (d) To enhance the conductivity of the metal

3. In Soxhlet extraction, what type of compounds are best extracted? (CO2, K1)

(a) Highly volatile compounds

(b) Thermally unstable compounds

(c) Moderately soluble compounds in the solvent

(d) Insoluble solid compounds

4. What is the primary principle of ion-exchange chromatography? (CO2, K1)

(a) Partitioning based on solubility

(b) Adsorption on a solid phase

(c) Exchange of ions between resin and mobile phase

(d) Size exclusion of molecules

5. Which of the following biofertilizers enhances phosphorus availability to plants? (CO3, K2)

(a) Rhizobium

(b) Azospirillum

(c) Bacillus

(d) Methanobacterium

6. What is the primary advantage of using potassium fertilizers in soil? (CO3, K1)

(a) Enhances nitrogen fixation

(b) Improves disease resistance and drought tolerance

(c) Increases soil pH

(d) Reduces phosphorus leaching

7. Which of the following is an organophosphorus insecticide? (CO4, K2)

(a) DDT

(b) BHC

(c) Malathion

(d) Endosulfan

8. Why are dithiocarbamates effective as fungicides? (CO4, K1)

(a) They chelate metal ions essential for fungal metabolism

(b) They act as contact poisons by disrupting cell membranes

(c) They inhibit ATP synthesis in mitochondria

(d) They cause oxidative stress in plant cells

9. In Otto-Witt's theory of color and constitution, what is the role of auxochromes? (CO5, K1)

(a) Absorb light to produce color

(b) Alter the wavelength of absorbed light to shift colors

(c) Increase the solubility of the dye

(d) Prevent photodegradation of the dye

10. In Nelson's method for glucose estimation, which compound is used for color development? (CO5, K2)

(a) Ferric chloride

(b) Arsenomolybdate reagent

(c) Potassium permanganate

(d) Iodine solution

Part B (5 × 5 = 25)

Answer **all** questions not more than 500 words each.

11. (a) Describe the role of red phosphorus in safety match manufacturing and explain the chemical reactions involved. (CO2, K2)

Or

(b) Explain the mechanism of galvanization and its effectiveness in preventing corrosion. (CO2, K2)

12. (a) Compare and contrast steam distillation and fractional distillation, providing an example of where each is used. (CO3, K3)

Or

(b) Describe the role of desiccants in drying processes and discuss the selection criteria for vacuum drying. (CO3, K3)

13. (a) Differentiate between nitrogen-fixing and phosphate-mobilizing biofertilizers with examples. (CO2, K4)

Or

(b) Discuss the role of bone meal as a phosphorus fertilizer and its effect on plant growth. (CO3, K3)

14. (a) Discuss the mechanism of action of methylcarbamate insecticides, with a focus on carbaryl. (CO4, K5)

Or

(b) Compare the toxicity and environmental impact of organochlorine and organophosphorus pesticides. (CO4, K5)

15. (a) Differentiate between bathochromic and hypsochromic shifts with examples. (CO3, K5)

Or

(b) Discuss the principle and significance of the Benedict's test for glucose in urine. (CO3, K5)

Part C $(5 \times 8 = 40)$

Answer **all** the questions not more than 1000 words each.

16. (a) Classify explosives based on their composition and applications, explaining in detail the chemistry of TNT and Picric acid. (CO4, K4)

Or

(b) Discuss the industrial process of paper manufacturing, with a focus on bleaching and coloring steps. (CO4, K4)

17. (a) Explain the principles, methodology, and applications of thin-layer chromatography and gas chromatography. (CO3, K3)

Or

(b) Discuss crystallization as a purification techniqu,e emphasizing factors affecting crystal formation and purity. (CO3, K3)

18. (a) Explain the impact of nitrogen, phosphorous and potassium fertilizers on soil fertility and crop yield. (CO2, K2)

Or

(b) Describe the process of preparing biofertilizer formulations with examples of bacterial and fungal biofertilizers. (CO2, K2)

19. (a) Explain the classification structure, and mode of action of organophosphorus insecticides, providing relevant examples. (CO3, K3)

Or

(b) Discuss the chemistry and applications Bordeaux mixture and sulfur-based fungicides. (CO3, K3)

20. (a) Explain the classification and synthesis of synthetic dyes, emphasizing the structural features that influence their color. (CO4, K5)

Or

(b) Discuss the clinical significance of hemoglobin estimation and its relevance in diagnosing anemia. (CO4, K5)

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R2853

Sub. Code
548401

M.Sc. DEGREE EXAMINATION, APRIL – 2025

Fourth Semester

Integrated Marine Biology

ECOLOGY AND ZOOGEOGRAPHY

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the following objective type questions by choosing the correct option.

1. Which of the following marine zones is characterized by its open-ocean expanses and free-swimming marine life? (CO1, K2)

   (a) Intertidal zone

   (b) Abyssal zone

   (c) Pelagic zone

   (d) Coral reef zone

2. What is the primary source of oxygen production in the marine environment? (CO1, K2)

   (a) Mangrove trees (b) Seagrasses

   (c) Phytoplankton (d) Coral reefs

3. What is the primary role of keystone species in marine ecology? (CO2, K2)

(a) Providing shelter for small fish

(b) Contributing to ocean acidification

(c) Maintaining the balance of the ecosystem

(d) Enhancing the color diversity of coral reefs

4. What does an ecological pyramid represent in an ecosystem? (CO2, K2)

(a) Population distribution across different habitats

(b) The flow of energy or biomass through trophic levels

(c) Genetic diversity within a species

(d) The seasonal migration patterns of organisms

5. What are the main factor influencing variations in population density across different regions in ecology? (CO3, K3)

(a) Temperature fluctuations

(b) Seasonal migration patterns

(c) Availability of suitable habitats

(d) Genetic diversity within the population

6. Which of the following best describes the concept of age structure in population ecology? (CO3, K3)

(a) The distribution of individuals across different geographic regions

(b) The ratio of males to females in a population

(c) The proportion of individuals in different age groups within a population

(d) The average lifespan of individuals in a population

7. Which factor primarily determines the structure and composition of a community in ecology? (CO4, K2)

(a) Temperature fluctuations

(b) Soil pH levels

(c) Biotic interactions

(d) Atmospheric pressure changes

8. Which factor is a significant threat to marine biodiversity? (CO4, K2)

(a) Decreased sea temperature

(b) Coral reef conservation

(c) Sustainable fishing practices

(d) Ocean acidification

9. What human activity is a primary contributor to the formation of ocean "garbage patches', negatively affecting marine biodiversity? (CO5, K4)

(a) Deforestation along coastlines

(b) Intentional dumping of industrial waste

(c) Abandoned ghost fishing gear

(d) Controlled release of biodegradable materials into the ocean

10. Which human activity is a significant driver of coral reef degradation, impacting marine biodiversity by causing physical damage and promoting the spread of invasive species? (CO5, K4)

(a) Sustainable tourism practices

(b) Coral transplantation initiatives

(c) Dynamite fishing and trawling

(d) Marine protected area establishment

Part B (5 × 5 = 25)

Answer **all** the questions not more than 500 words each.

11. (a) Give an elaborate note on the Benthic Environment. (CO1, K2)

Or

(b) Discuss polar sea and hydrothermal vent. (CO1, K2)

12. (a) Explain about the food chain and food web. (CO2, K2)

Or

(b) Detail about Ecosystem services. (CO2, K2)

13. (a) What are the prey-predator relationship in population ecology? (CO3, K3)

Or

(b) Justify the sex ratio and population growth in Marine ecology. (CO3, K3)

14. (a) Explain about diversity and stability in community ecology. (CO4, K4)

Or

(b) What is the concept of niche? (CO4, K3)

15. (a) Write a short note on biodiversity assessment techniques. (CO5, K4)

Or

(b) Discuss about the measures for over-exploitation. (CO5, K4)

Part C (5 × 8 = 40)

Answer **all** the questions not more than 1000 words each.

16. (a) Give elaborate details about the classification of the marine environment. (CO1, K2)

Or

(b) Explain about coral reef ecosystem and mangrove forest. (CO1, K2)

17. (a) Discuss about function and structure of marine ecosystem. (CO2, K2)

Or

(b) What are the characteristics and behavior of a marine ecosystem. (CO2, K2)

18. (a) Explain about Density dependent and Independent factors. (CO3, K3)

Or

(b) Give an elaborate account on Intra specific and Inter specific competition. (CO3, K3)

19. (a) Describe in detailed account on resilience and succession. (CO4, K3)

Or

(b) Explain in detail about structure composition and stratification of community ecology. (CO4, K4)

20. (a) Discuss about the major pollutions in marine biodiversity. (CO5, K4)

Or

(b) What is Marine Biodiversity? Explain their importance. (CO5, K4)

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R2854	Sub. Code
	548402

M.Sc. DEGREE EXAMINATION, APRIL – 2025

Fourth Semester

Integrated Marine Biology

VERTEBRATES

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the following objective type questions by choosing the correct option.

1. Which of the following is a shared characteristic of all chordates? (CO1, K2)

   (a) Scales (b) Jaws

   (c) Vertebrates (d) Dorsal hallow nerve cord

2. Vertebrates belong to subphylum _____? (CO1, K2)

   (a) Vertebrata (b) Hexapoda

   (c) Lancelet (d) Tunicate

3. Which organ in fish is primarily responsible for buoyancy? (CO2, K2)

   (a) Liver (b) Swim bladder

   (c) Gills (d) Heart

4. _____ is a type of spawning where fish release eggs and sperm into the water (CO2, K2)

(a) Broadcast Spawning

(b) Egg Scattering

(c) Nest Building

(d) Livebearing

5. _____ group of vertebrates are robins and owls? (CO3, K2)

(a) Birds (b) Fishes

(c) Mammals (d) Amphibians

6. _____are the closest living relatives of birds (CO3, K2)

(a) Snakes (b) Turtles

(c) Crocodiles (d) Lizard

7. What are the only creatures that have placentas? (CO4, K3)

(a) Mammals (b) Reptiles

(c) Birds (d) All the above

8. Which mammals have returned to living their entire lives in the water? (CO4, K3)

(a) Polar bear (b) Cetaceans

(c) Sea Lion (d) Sea Otter

9. The Indian Osteichthyes are represented by _____ species (CO5, K4)

(a) 2000 (b) 2415

(c) 3000 (d) 1500

10. All basal vertebrates breathe with _____? (CO5, K4)

(a) Gills (b) Skin

(c) Muscles (d) Nostrils

Part B ($5 \times 5 = 25$)

Answer **all** the questions not more than 500 words each.

11. (a) Explain the Early chordate evolution. (CO1, K2)

Or

(b) Write a detailed note on the origin of chordates. (CO1, K2)

12. (a) Discuss the Adaptive radiation of elasmobranchs and bonyfishes. (CO2, K2)

Or

(b) Explain the origin and distribution of amphibia. (CO2, K2)

13. (a) Write an account on the Marine reptiles. (CO3, K2)

Or

(b) Explain the Adaptive radiation of turtles. (CO3, K2)

14. (a) Give short notes on general characters of mammals. (CO4, K3)

Or

(b) Explain the comparative anatomy of skin derivaties. (CO4, K3)

15. (a) Given an detailed account on Fish development. (CO5, K4)

Or

(b) Write a detailed note on the Germ layer formation. (CO5, K4)

Part C (5 × 8 = 40)

Answer **all** the questions not more than 1000 words each.

16. (a) Give an elaborate account on Geological time scale. (CO1, K2)

Or

(b) Explain the Features of chordates. (CO1, K2)

17. (a) Explain the detailed account of the characteristics features of ancestral vertebrates. (CO2, K2)

Or

(b) Give an account of evolution of jawless and primitive vertebrates. (CO2, K2)

18. (a) Describe in detailed about Origin of reptiles and birds. (CO3, K2)

Or

(b) Explain in detailed about of Marine birds adaptations and migration. (CO3, K2)

19. (a) Give an elaborate account on Characteristics of monotremes. (CO4, K3)

Or

(b) Explain in detailed about on the circulatory mechanisms of mammals. (CO4, K3)

20. (a) Write a detailed account on the Types of cleavage. (CO5, K4)

Or

(b) Explain in detailed about on axis formation and neurulation. (CO5, K4)

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R2855

Sub. Code
2MB4A1

M.Sc. DEGREE EXAMINATION, APRIL – 2025

Fourth Semester

Integrated Marine Biology

Allied – BOTANY

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the following objective type questions by choosing the correct option.

1. Bentham and Hooker's system of classification is primarily based on the work of (CO1, K2)
   (a) Charles Darwin (b) Carl Linnaeus
   (c) Gregor Mendel (d) Thomas Huxley

2. Which of the following materials are commonly used to preserve plant specimens in a herbarium? (CO1, K2)
   (a) Liquid nitrogen (b) Formaldehyde
   (c) Drying press (d) Plastic containers

3. ———————— is a hook climber in Annonaceae. (CO2, K2)
   (a) Annona (b) Artabotrys
   (c) Cananga (d) Polyalthia

4. The stamens in citrus are evidence of (CO2, K4)
   (a) Numerous polyadelphous
   (b) Numerous polyandrous
   (c) Obdiplostemonous
   (d) Five, antipetalous

5. Which of the following is a major product derived from soybeans? (CO3, K4)

(a) Cotton (b) Tofu

(c) Rubber (d) Wheat

6. Which region is renowned for its high-quality olive oil production? (CO3, K4)

(a) Southeast Asia

(b) South America

(c) Mediterranean Basin

(d) Sub-Saharan Africa

7. What is the primary role of the embryo sac in plant reproduction? (CO4, K2)

(a) Producing pollen grains

(b) Providing nutrients to the developing seed

(c) Fertilizing the ovule

(d) Shelter the female gametophyte for fertilization

8. In which type of ovule is the embryo sac curved and the micropyle and chalaza lie close together? (CO4, K2)

(a) Anacampylotropous

(b) Amphitropous

(c) Orthotropous

(d) Hemitropous

9. Which type of endosperm is predominant in most dicotyledonous plants? (CO5, K6)

(a) Nuclear endosperm

(b) Helobial endosperm

(c) Cellular endosperm

(d) Micropylar endosperm

10. What is the ploidy level of the resulting endosperm after double fertilization in angiosperms? (CO5, K6)

(a) Haploid (b) Diploid

(c) Triploid (d) Tetraploid

Part B ($5 \times 5 = 25$)

Answer **all** questions not more than 500 words each.

11. (a) Explain the different types of drying of plant specimen for Herbarium preparation. (CO1, K2)

Or

(b) Outline the Merits and Demerits of Natural System of Classification. (CO1, K2)

12. (a) Illustrate the vegetative characters of Rutaceae. (CO2, K2)

Or

(b) Distinguish the economic importance of Poaceae. (CO2, K4)

13. (a) Examine the Economic importance of Olive oil. (CO3, K4)

Or

(b) Analyze the Economic uses of Soybean. (CO3, K4)

14. (a) Explain the structure of an Ovule. (CO4, K2)

Or

(b) Discuss the different layers of Tapetum. (CO4, K6)

15. (a) Elaborate the double fertilization process. (CO5, K6)

Or

(b) Predict the structural features of monocot Embryo. (CO5, K6)

Part C (5 × 8 = 40)

Answer **all** questions not more than 1000 words each.

16. (a) Outline the Merits and Demerits of Natural System of Classification. (CO1, K2)

Or

(b) Summarize the importance of storage o Herbarium. (CO1, K2)

17. (a) Compare and contrast the floral characters of Euphorbiaceae. (CO2, K2)

Or

(b) Outline the family characters and Economic importance of Annonaceae. (CO2, K4)

18. (a) List the Economic importance of Beverages. (CO3, K4)

Or

(b) Distinguish the Economic uses of Fruits. (CO3, K4)

19. (a) Interpret the Structure of Mature anther. (CO4, K2)

Or

(b) Infer how are different types of tapetum formed. (CO4, K2)

20. (a) How is Monocot embryo developed? (CO5, K6)

Or

(b) Discuss on Nuclear endopserm. (CO5, K6)

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