

**Faculty of Science**  
**B.Sc (Botany) II-Year, CBCS –IV Semester**  
**Regular Examinations June/July –2022**  
**PAPER: Cell Biology, Genetics and Physiology**

Time: 3 Hours

Max Marks: 80

**Section-A**I. Answer any *eight* of the following (8x4=32 Marks)

1. RNA types and functions
2. Structure of chromosome
3. Mitosis
4. Incomplete dominance
5. Epistasis
6. Inversions and translocation
7. Osmosis
8. Iron deficiency symptoms
9. Enzyme properties
10. Red Drop
11. Fermentation
12. Ethylene

**Section-B**

II. Answer the following questions (4x12=48 Marks)

13. (a) Describe the structure of lampbrush chromosomes and add a note on their significance  
(OR)  
(b) Enumerate the semiautonomous nature of mitochondria in detail
14. (a) Explain the concepts of linkage and crossing over with examples  
(OR)  
(b) What are mutations? Discuss various types of mutations studied by you
15. (a) Explain the significance of Macro nutrients in plant growth and development  
(OR)  
(b) Enumerate the mechanism of enzyme action. Add a note on the factors regulating enzyme action.
16. (a) Explain Calvin cycle in detail with schematic representation  
(OR)  
(b) Write an account of the physiological effects of Auxins in detail

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## Faculty of Science

**B.Sc (Botany) II-Year, CBCS –IV Semester Backlog Examinations –Jan,2023****PAPER: Cell Biology, Genetics and Plant Physiology**

Time: 3 Hours

Max Marks: 80

**Section-A**I. Answer any *eight* of the following questions (8x4=32 Marks)

1. Plasmids
2. Structure of chloroplast
3. Mitosis
4. Linkage
5. Euploidy
6. Deletion and duplication
7. Water potential
8. Calcium deficiency symptoms
9. Enzyme properties
10. Photosystems
11. Glycolysis
12. Cytokinins

**Section-B**

II. Answer the following questions (4x12=48 Marks)

13. (a) Describe the special types of chromosomes studied by you and add a note on their significance.

(OR)

- (b) Enumerate the ultrastructure of cell wall in detail.

14. (a) Explain possible variations in chromosome structure and number in detail.

(OR)

- (b) Discuss Mendel's laws of inheritance with examples.

15. (a) Explain the significance of macro and micro nutrients in plant growth and development.

(OR)

- (b) Explain stomatal mechanism of opening and closing in detail.

16. (a) Explain Kreb's cycle in detail with schematic representation.

(OR)

- (b) Write an account of the physiological effects of auxins in detail.

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## Faculty of Science

**B.Sc (Botany) II-Year, CBCS –IV Semester Regular Examinations –June, 2023****PAPER: Cell Biology Genetics and Plant Physiology**

Time: 3 Hours

Max Marks: 80

**Section-A**I. Answer any *eight* of the following questions (8x4=32 Marks)

1. Structure of chloroplast
2. Plasmids
3. Functions of DNA
4. Autosomes
5. Sex linkage
6. Epistasis
7. Osmosis
8. Mineral deficiency symptoms
9. Stomatal structure
10. CAM pathway
11. Glycolysis
12. Ethylene

**Section-B**

II. Answer the following questions (4x12=48 Marks)

- 13.(a) Explain about Euchromatin and Heterochromatin  
(OR)  
(b) Explain in detailed about meiosis and its significance
- 14.(a) Explain about linkage and crossing over  
(OR)  
(b) Describe about variation in structure and number of chromosomes
- 15.(a) Explain about water potential and pressure potential  
(OR)  
(b) Explain about enzyme properties and classification.
- 16.(a) Describe about C3 pathway  
(OR)  
(b) Write in detail about Auxins and their functions

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## Faculty of Science

## B.Sc (Botany) II-Year, CBCS –IV Semester Regular Examinations –June, 2023

## PAPER: Cell Biology Genetics and Plant Physiology

Time: 3 Hours

Max Marks: 80

## విభాగం - ఎ

- I. ఈ క్రింది ప్రశ్నలకు సమాధానములు వ్రాయండి. (5x4=20 Marks)
1. హరితరేణువు నిర్మాణము
  2. ప్లాస్మిడ్స్
  3. DNA విధులు
  4. ఆటోసోమ్స్ (Autosomes )
  5. లింగ సహలగ్నత
  6. ఎపిస్టేసిస్ (Epistasis )
  7. ద్రవాభిసరణ
  8. పోషకాల లోప లక్షణాలు
  9. పత్రరంధ్ర నిర్మాణము
  10. CAM మార్గం Pathway
  11. గ్లైకోలిసిస్
  12. ఇథిలీన్

## విభాగం - బి

- II. ఈ క్రింది ప్రశ్నలకు సమాధానములు వ్రాయండి. (4x15=60 Marks)
- 13.(a) యూక్రోమాటిన్ మరియు హెటెరోక్రోమాటిన్ గురించి వివరించండి  
(లేదా)  
(b) క్షయ కరణ బిభజన మరియు దాని ప్రాముఖ్యతను పూర్తిగా వివరించండి
  - 14.(a) linkage మరియు crossing over గురించి వివరించండి  
(లేదా)  
(b) క్రోమోసోముల నిర్మాణము మరియు సంఖ్యలలో తేడాలను వివరించండి
  - 15.(a) నీటి సామర్థ్యం మరియు పీడన సామర్థ్యము గురించి తెలుపండి  
(లేదా)  
(b) ఎంజయం (Enzyme ) ధర్మాలు మరియు వర్గీకరణను తెలుపండి
  - 16.(a) C3 కర్బన మార్గాన్ని వివరించండి  
(లేదా)  
(b) ఆక్సిజన్ వాటి విధులను వివరించండి

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