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GS-341

VI Semester B.Sc. Examination, May/June - 2019

BOTANY - VII

**Cytology, Genetics, Evolution and Plant Breeding
(CBCS) (F+R) (2016-17 & Onwards)**

Time : 3 Hours

Max. Marks : 70

- Instructions :** 1. Answer **all** Parts.
2. Draw diagrams wherever necessary.

PART - A

- I. Explain/Define **any ten** of the following in **two to three** sentences : **10x2=20**
1. What is Telomere ? Mention its significance.
 2. Differentiate between Euchromatin and Heterochromatin.
 3. Mention the significance of Centromere.
 4. What is Genome ?
 5. Define Dyad and Tetrad.
 6. What is SAT - chromosome ?
 7. What is Test Cross ?
 8. What is Monohybrid cross ?
 9. Give the phenotypic ratio of dominant Epistasis.
 10. What is intergeneric hybridization ? Give an example.
 11. What is chromosomal aberration ? Give an example.
 12. Define Mutation.

P.T.O.

**PART - B**

II. Write critical notes on **any four** of the following :

4x5=20

13. Role of Lysosomes in Apoptosis.

14. Significance of Mitosis.

15. Incomplete dominance.

16. Supplementary factors.

17. Chemical theory of Evolution.

18. Allopolyploidy.

PART - C

III. Give a comprehensive account of **any three** of the following :

3x10=30

19. Prophase-I of Meiosis.

20. Pollen bank and its role.

21. Any two methods of vegetative propagation.

22. Complementary factors.

23. In Garden Pea, Round (R) is dominant over wrinkled (r) and tall plant (T) is dominant over dwarf (t).

If a plant with homozygous tall habit and round seeds is crossed with a plant homozygous for dwarf habit and wrinkled seeds. What will be the phenotype of F_1 and F_2 ? Bring out the F_2 phenotypic ratio.

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GS-342

VI Semester B.Sc. Examination, May/June - 2019

BOTANY - VIII

Plant-Physiology - II

(CBCS) (F+R) (2016-17 & onwards)

Time : 3 Hours

Max. Marks : 70

- Instructions :**
1. Answer **all** parts.
 2. Draw diagrams wherever necessary.

PART - A

A. Explain/Define **any ten** of the following in **two** or **three** sentences : **10x2=20**

1. What are enzyme inhibitors ? Mention the types.
2. What is an amino acid ? Give an example.
3. Mention any two non symbiotic nitrogen fixing organisms.
4. Expand : ATP
PGA
5. Draw a neat labelled diagram of Mitochondrion.
6. What is Kranz anatomy ?
7. Mention any two methods of breaking seed dormancy.
8. State Blackman's law of limiting factors.
9. What are isomerases ? Give one example.
10. Mention any two roles of Auxins in plants.
11. What is vernalization ?
12. What are short day plants ? Give an example.

P.T.O.

**PART - B**

- B.** Explain critical notes on **any four** of the following : **4x5=20**
13. Factors affecting enzyme action.
 14. Non cyclic photophosphorylation.
 15. Role of Rhizobium in legumes.
 16. Law of limiting factors with a suitable example.
 17. Nitrification and Denitrification.
 18. Factors affecting Growth.

PART - C

- C.** Give a comprehensive account of **any three** of the following : **3x10=30**
19. Explain C_4 cycle. Add a note on it's significance.
 20. What is EMP pathway ? Explain the steps involved in it.
 21. Explain the properties of enzyme. Add a note on lock and key mechanism.
 22. What are phytohormones ? Explain the effects of Gibberellins on plants.
 23. Explain :
 - (a) Phototropism
 - (b) Secondary metabolites