

**VIJAYA COLLEGE**

R.V Road, Basavanagudi, Bengaluru-560 004

**VI Semester B.Sc., MODEL QUESTION PAPER**

**Subject: GENETICS**

**Paper-GNT 602: APPLIED AND BEHAVIOUR GENETICS**

**Max.Marks: 70**

**Time: 3 Hrs**

**PART – A**

**I Answer any FIVE of following:**

**(5x3=15)**

- 1.What is germplasm?.
- 2.What are gene sanctuaries?
- 3.State the law of parallelism.
- 4.What is genetic erosion?
- 5.Expand NBPGR..
6. What is hybrid vigour?.
- 7.What is heterobeltosis?.

**PART – B**

**II Answer any FIVE of following:**

**(5x5=25)**

- 1.List the centers of diversity.
- 2.Write a note on heterosis.
- 3.Differentiate between inbreeding and cross breeding.
- 4.Give a brief account on cryopreservation.
- 5.Briefly explain about animal breeding.
6. Illustrate the genetic concepts of over dominance.
- 7.What are vavilovian centers of diversity.

**PART – C**

**III Answer any ONE of following:**

**(10x1=10)**

1. Explain about germplasm and its activities.
- 2.Give a detail account on the organization associated with germplasm.

**PART – D**

**IV Answer any ONE of following:**

**(10x1=10)**

1. Explain the breeding strategies for the improvement of livestock for milk, meat and wool production.
- 2.Explain the hybrid vigor exploitation in rice.

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**Time: 3 Hrs**

**PART – A**

**I Answer any FIVE of the following:**

**(5x3=15)**

- 1.What is genetic erosion?.
- 2.Give the classification of germplasm?
- 3.What are gene bank?
- 4.What is Vavilovian centers of diversity?
- 5.Expand IBPGR..
6. What is biodiversity?.
- 7.What is selection in fish breeding technique?.

**PART – B**

**II Answer any FIVE of following:**

**(5x5=25)**

- 1.Explain gynogenesis.
- 2.Write a note on genetic concepts of dominance.
- 3.Differentiate between intergeneric and interspecific hybridization.
- 4.Give an account on animal breeding.
- 5.What is biodiversity?Give a brief account on centers of biodiversity.
6. Explain hybrid vigor exploitation in Tomato.
- 7.List the Vavilovian centers of diversity.

**PART – C**

**III Answer any ONE of the following:**

**s(10x1=10)**

1. Explain the role of the organization associated with germplasm.
- 2.Explain the method of estimation of heterosis.

**PART – D**

**IV Answer any ONE of following:**

**(10x1=10)**

1. Give a detail account on the production of breed.
2. What is germplasm ? Give its classification and its activities.

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*Instructions: i) Draw diagrams wherever necessary*

**PART - A**

I Answer any **five** of the following:

5X3=15

1. Give an account on molecular probes.
2. What are microsatellites? Add a note on its application.
3. Give an explanatory note on bioinformatics in genome analysis.
4. Discuss the territoriality and conflict behaviour in primates
5. What is genetic erosion?
6. Mention the types of heterosis.
7. Expand www. Add a note on databases.

**PART - B**

II Answer any **five** of the following:

5X5=25

8. Describe the production of human growth hormone.
9. Explain RFLP as molecular markers in DNA fingerprinting.
10. Explain the mating behaviour in *Drosophila*.
11. Discuss the application of DNA fingerprinting in parental dispute.
12. What is gene bank? Explain with respect to cryopreservation.
13. Explain hybrid vigour exploitation.
14. Discuss the breeding strategies in poultry.

**PART - C**

III Answer any **two** of the following:

2X10=20

15. Describe in detail about production of monoclonal antibody.
16. Explain the methodology of DNA fingerprinting.
17. Explain the industrial application of insulin molecule.
18. Explain a) Organisations of germplasm b) Sequence Tagged regions.

**PART - D**

IV Answer any **one** of the following:

1X10=10

19. Explain a. Diagnosis of typhoid. b. Nesting behaviour in ants
20. Describe the hybridization techniques in plants.

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**Time: 3Hours**

**Max**

**Marks: 70**

*Instructions: i) Draw diagrams wherever necessary*

**PART - A**

I Answer any **five** of the following: 5X3=15

1. Write a note on hepatitis B vaccine.
2. Give an account on SNPs
3. Explain the diagnosis of Syphilis.
4. What is cryopreservation?
5. Explain inbreeding depression in plants
6. Expand NBPGR and IBPGR.

**PART - B**

II Answer any **five** of the following: 5X5=25

7. Describe the production of human growth hormone.
8. Explain RAPD as molecular markers in DNA fingerprinting.
9. Explain nesting behaviour in ants.
10. Explain the methodology of DNA fingerprinting.
11. What are monoclonal antibodies? Add a note on its applications.
12. Explain law of parallelism.
13. Mention the organisations associated with germplasm.
14. Discuss the methods of construction of molecular probes.

**PART - C**

III Answer any **two** of the following: 2X10=20

15. Describe in detail about hybridization techniques in plants.
16. Explain a) Centres of diversity. b) Conflict behaviour in primates
17. What are interferons? Explain its production.
18. Describe in detail the breeding strategies in animals.

**PART - D**

IV Answer any **one** of the following: 1X10=10

19. Explain a. Diagnosis of typhoid. b. hygienic behaviour in honey bees
20. Describe in detail the process of cryopreservation in gene banks.

