

**Human Physiology [P.G.]**

**[CBCS]**

**M.Sc. Fourth Semester End Examination-2024**

**[Regular & Supplementary Paper]**

**PAPER: PHY 403**

**Full Marks: 40**

**Time: 02 Hrs**

*The figures in the right hand margin indicate marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

*Illustrate the answers wherever necessary.*

**[Use separate answer script for each group]**

**Unit - 37**

**Marks 20**

**[Microbial Genetics: Advanced Studies]**

1. Answer any two questions from the following: 2x2= 4
- a. What is helicase activity?
  - b. What is prophage?
  - c. What is meant by RNA editing?
  - d. What do you mean by C value?

(2)

2. Answer any two questions from the following: **2x4= 8**
- a. State the modern classification of viruses. Schematically describe the structure of bacteriophage. **2+2**
- b. What is 'IS' element? State evolutionary significance of transposable element? **1+3**
- c. What is 'Ori' site? Briefly describe initiation of replication. **1+3**
- d. What are linked genes? Differentiate between DNA denaturation and DNA renaturation. **1+3**
3. Answer any one question from the following: **1x8= 8**
- a. What is conjugation? What is the role of the F-factor in conjugation? Differentiate between generalized vs specialized transduction. **2+2+4**
- b. What is operator? Discuss on different post transcriptional modification process. Briefly describe the chromosome packaging with diagram. **1+3+4**

**Unit - 38**

**Marks 20**

**[Microbiology and Clinical Immunology]**

1. Answer any two questions from the following: **2x2= 4**
- a. Discuss the clinical reason for Myasthenia Gravis.
- b. Give the function of CAM.

(3)

- c. Write the principle of 'Elispot assay'.
- d. What do you mean by immuno editings in cancer therapy?
2. Answer any two questions from the following: **2x4= 8**
- a. Differentiate between active immunity and passive immunity. What are the benefits and drawbacks of using attenuated live vaccines? **2+1+1**
- b. Name two immunodeficiency diseases. How does the primary immunodeficiency disease differ from the secondary immunodeficiency disease? **1+3**
- c. Describe the theories accepted for the occurrence of cancer. **4**
- d. Name the four modes of cancer immunotherapy. **1+3**
3. Answer any one question from the following: **1x8= 8**
- a. Explain the four methods of tumor surveillance in the human body. **2+2+2+2**
- b. Explain the factors that affect the activation of the protooncogenes leading to malignancy. **8**
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