Human Physiology (P.G.)

[CBCS]

M.Sc. Third Semester End Examination-2024

(Regular & Supplementary Paper)

PAPER-PHY-301

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 unit)

Unit – 23

[Marks – 20]

[Cellular & Molecular Physiology]

1. Answer any two questions of the following: **2x2=4**

a. Differentiate between repression and attenuation. 2

b. Define oncogene, How does it differ from protooncogene? 1+1

c. Differentiate between enchromatin and Heterochromatin. 2

d. State the significance of transposons. 2

2. Answer any two questions of the following: **2x4= 8**

a. What are Okazaki fragments? What is wooble base pairing? 2+2

b. Describe the Process of RNA splicing. 4

c. Differentiate between B,A and Z forms of DNA. 4

d. Describe the mismatch repair system of DNA with a suitable diagram. 4

3. Answer any one question of the following: 1x8=8

a. Describe the process of translation in eukaryotes with a suitable diagram. 8

b. Give an example of an inborn eror of metabolism. What is the physiological significance of mutation? What is meant by glycosylation of protein? 3+3+2

Unit – 24

[Marks – 20]

[Human Genetics]

1. Answer any two questions of the following: 2x2=4

a. What is polyploidy? 2

b. What is the role of 'alleles' in determining phenotype of an organism? 2

c. What is 'Low of Independent Assortment'? 2

d. What is genetic drift? 2

2. Answer any two questions of the following: 2x4= 8

a. What is a monohybrid cross and how does it demonstrate Mendel's first law? 2+2

b. i) A woman with x-linked color-blindness and Turner syndrome had a colorblind father and a normal mother. In which of her parents disnonjunction of the sex chromosomes occured?

ii) What is pscudo-allele? 2+2

c. Draw a suitable flowchart relating fate of xenobiotics. 4

d. Write short note on 'Autosomal Recessive Inheritance'. 4

3. Answer any one question of the following: 1x8=8

a. How does XY sex determination system work in human? Describe in detail the Hardy-Weinberg Equilibrium. 4+4

b. What are rare blood types and why are they significant in medical emergencies? 2+2

How is cytochrome P450 involvel in Xenobiotic metabolizing enzyme activities? 4
