

15U123

Name: .....  
Reg. No. ....

**FIRST SEMESTER DEGREE EXTERNAL EXAMINATION DEC./JAN. 2015 -16**  
(2015 Admission)

**CC15UPSY1C01- HUMAN PHYSIOLOGY (complementary)**

Max. Time: 3hours

Max. Marks

**PART - A**

Answer *all* questions. Each question carries *one* mark

1. The role of carbohydrates in cell membrane is in  
a) Cell adhesion    b) Assisting transport across membrane    c) Cell-cell recognition  
d) Cell storage reserve
2. The phenotypic ratio of a dihybrid cross in F<sub>2</sub> Generation is  
a) 1:4:6:1    b) 1:2:1    c) 9:3:3:1    d) 2:1:4
3. Glucose is stored in human tissues as  
a) Dextrin    b) Starch    c) Cellulose    d) Glycogen
4. Chromosomal replication occurs in the \_\_\_\_\_ phase of the cell cycle  
a) S phase    b) G<sub>2</sub> phase    c) G<sub>1</sub> phase    d) M phase
5. Nuclear membrane is continuous with the  
a) Endoplasmic Reticulum    b) Plasma membrane    c) Golgi apparatus    d) Lysosomes
6. An allele that is fully expressed in the phenotype of a heterozygous individual is a \_\_\_\_\_ allele
7. The two chains of DNA are held together by \_\_\_\_\_ bonds between the nitrogenous bases.
8. Cells become specialized or \_\_\_\_\_ to carry out specific functions as the embryo develops.
9. The rare genetic disorder, chromosome 5p deletion, first described by Jerome Lejeune is more popularly known as \_\_\_\_\_ syndrome.
10. \_\_\_\_\_ is a congenital disorder characterized by complete or partial absence of the pigment melanin.

**PART - B**

10x1=1

Answer *all* questions. Each question carries *two* marks

11. What are mutagens? Give any two examples.
12. Mention the classification of the epithelial tissue.
13. What is a test cross and what is its significance?
14. Explain the phenomenon of epistasis.
15. Differentiate between diffusion and osmosis

16. With an appropriate example explain pleiotropy.
17. Write a note on silent mutations.
18. Differentiate between phenotype and genotype.
19. Briefly explain the role of peroxisomes in a cell.
20. How is an ideogram different from a karyotype?

#### PART - C

10x

Answer any *six* questions. Each question carries *five* marks

21. Draw and label a typical animal cell.
22. Describe the composition of the fluid connective tissue.
23. Explain Edward's syndrome giving its genetics, physical signs and health impairments.
24. Explain galactosemia? What are the symptoms and treatment?
25. What are the differences between mitosis and meiosis?
26. What is sex linkage? What is its significance in the inheritance and expression of recessive traits?
27. Explain Mendel's monohybrid cross and his inference from the same. How did he ascertain the genotype of the F<sub>1</sub> generation?
28. Elucidate the fluid mosaic model of plasma membrane.

6x

#### PART - D

Answer any *two* questions. Each question carries *ten* marks

29. What is meant by autosomal anomaly? Highlighting the genetics, symptoms and treatment explain Down's syndrome and Edward's syndrome.
30. Who proposed the cell theory and what does it state? What are the statements incorporated in its modified form, the cell principle?
31. With the help of labeled diagrams explain in detail, the sub stages of prophase I of meiosis I.
32. Explain in detail the mechanism of DNA replication.

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2x