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Name.....

Reg. No.....

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FIRST SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2016

(Regular/Supplementary/Improvement)

(CUCBCSS-UG)

CC15UPSY 1C01-HUMAN PHYSIOLOGY

(Psychology - Complementary Course)

(2015-Admission onwards)

Max. Time: 3 hours

PART - A

Max. Marks: 80

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

1. Homologous chromosomes move toward opposite poles of a dividing cell during
a) Mitosis b) Meiosis I c) Meiosis II d) Fertilization
2. In the mutational event, when adenine is replaced by guanine, it is a case of
a) Transition b) Transcription c) Transversion d) Frame shift mutation
3. A couple with blood types A and B may have children with blood types
a) A & B only b) AB c) A & O d) A, B, AB & O
4. If the DNA content of a diploid cell in the G1 phase of the cell cycle is X, the DNA content of the same cell at metaphase of meiosis I would be
a) X b) 2X c) 0.5X d) 0.25X
5. The cell organelles involved in intracellular protein transport are
a) Endoplasmic Reticulum and Golgi bodies b) Golgi bodies and mitochondria
c) Endoplasmic Reticulum and mitochondria d) Lysosomes and Golgi bodies
6. The _____ bonds link successive nucleotides in a DNA molecule.
7. The specific site in the chromosome occupied by a given gene is termed its _____.
8. _____ are all the rest of the chromosomes that are not needed for sex determination.
9. _____ tissue provides covering to the organism and to internal organs and the lining of internal spaces.
10. _____ is the way an organism looks and behaves as a result of its genotype. **10x1=10**

PART - B

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

11. Mention the differences between rough endoplasmic reticulum and smooth endoplasmic reticulum.
12. What are stem cells and what are differentiated cells?
13. How is epistatic – hypostatic relationship different from dominant – recessive relationship?
14. Write a note on Cry-du- chat syndrome.
15. Name the sub stages of prophase I of meiosis I.

16. Explain crossing over and mention its significance.
17. Write a note on genetic code.
18. Differentiate incomplete dominance from co dominance.
19. Give a very brief account of the different phases of the cell cycle.
20. Write a note on Brachydactyly.

10x2=20

PART - C

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

21. Explain the phenomenon multiple allelism with the help of a suitable example.
22. What is a centromere? With the help of appropriate diagrams explain how chromosomes are classified based on the position of centromere.
23. Trace the metabolic relationship between phenylketonuria, alkaptonuria and albinism.
24. Elaborate on the types, structure and functional aspects of ribosomes in a eukaryotic cell.
25. Explain the primary, secondary and tertiary structure of a protein
26. Explain the structural organization and functions of mitochondria.
27. Elucidate Klinefelter's syndrome with emphasis on the genetics, symptoms, treatment and prenatal diagnosis.
28. Briefly explain the different stages of mitosis.

6x5=30

PART - D

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

29. Explain in detail the mechanism of DNA replication.
30. With the help of a labeled diagram explain the organization of a typical animal cell.
31. Using the Punnet square, explain Mendel's dihybrid cross and his inference from the results.
32. What is gene mutation? Explain the various types in detail.

2x10=20
