

F.Y.B.SC. SEM – I (CBCS - 2016 COURSE) : WINTER - 2017

SUBJECT : ZOOLOGY : CELL BIOLOGY AND GENETICS

Day : **Saturday**
Date : **11/11/2017**

W-2017-0552

Time : **11.00 A.M. TO 02.00 PM**
Max. Marks : 60

N. B. :

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw neat and labelled diagram **WHEREVER** necessary.
-

Q. 1 A) Attempt all the following: (06)

- a) Genetics is the branch which deals with the study of _____.
 - i) relation between plants and environment
 - ii) inheritance and variation
 - iii) cell structure
 - iv) thermal structure
- b) A, B, O blood group system is due to _____.
 - i) epistasis
 - ii) multiple factor inheritance
 - iii) incomplete dominance
 - iv) multiple allelism
- c) Genetic composition of Turner's syndrome is _____.
 - i) 44 + XXY
 - ii) 44 + XO
 - iii) 44 + XXX
 - iv) 44 + XYY
- d) Fluid mosaic model to explain structure of plasma membrane was proposed by _____.
 - i) Hoffman
 - ii) Singer and Nicolson
 - iii) Robertson
 - iv) Davson and Danielli
- e) The power house of cell is _____.
 - i) golgi complex
 - ii) histone
 - iii) mitochondria
 - iv) plasma membrane
- f) Which of the following statement is not correct?
 - i) Ribosomes are power house of cell.
 - ii) Lysosomes are called suicide bags.
 - iii) Viruses lack their own enzyme system.
 - iv) Bacteria lack a definite cell wall.

B) Attempt all the following: (06)

- a) Who coined the term endoplasmic reticulum?
- b) What is the main function of ribosome?
- c) Who coined the term mitochondria?
- d) Define phenotype.
- e) Define F₂ generation.
- f) Define offsprings/progeny.

P. T. O.

Q. 2 Attempt **ANY THREE** of the following: (12)

- a) Describe structure of prokaryotic cell.
- b) Describe ultrastructure of lysosomes.
- c) Explain the law of segregation in detail.
- d) Define eugenics. Explain negative eugenics.

Q. 3 Attempt **ANY FOUR** of the following: (12)

- a) Write ultrastructure of Golgi complex.
- b) Write various functions of nucleus.
- c) Describe incomplete dominance.
- d) Describe Deficiency or Deletion.
- e) Describe Down's syndrome.

Q. 4 Attempt **ANY TWO** of the following: (12)

- a) Describe the 'fluid mosaic model' of the plasma membrane. Add a note on its functions.
- b) What is endoplasmic reticulum? Describe the types, structure and functions of the endoplasmic reticulum.
- c) Give an account on law of dominance with suitable example.

Q. 5 Attempt **ANY TWO** of the following: (12)

- a) Give an account on multiple alleles and explain it with reference to ABO blood groups in man.
- b) Explain the law of independent assortment with suitable example.
- c) Write an essay on mitochondria.

* * * * *