

**F.Y.B.SC. SEM – I (CBCS - 2016 COURSE) : SUMMER - 2018**  
**SUBJECT : ZOOLOGY : CELL BIOLOGY AND GENETICS**

Day : **Wednesday**  
Date : **02/05/2018**

**S-2018-0630**

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

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**N. B. :**

- 1) All questions are **COMPULSORY**.
  - 2) Figures to the right indicate **FULL** marks.
  - 3) Draw neat and labelled diagram **WHEREVER** necessary.
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**Q.1 A) Attempt all the following: (06)**

- a) The term 'genetics' was given by \_\_\_\_\_
  - i) Morgan
  - ii) Mendel
  - iii) Johanssen
  - iv) Bateson
- b) A cross made between F<sub>1</sub> hybrid and any of its parent is \_\_\_\_\_.
  - i) back cross
  - ii) monohybrid cross
  - iii) dihybrid cross
  - iv) reciprocal cross
- c) Down's syndrome is the result of \_\_\_\_\_.
  - i) an extra X chromosome
  - ii) an extra Y chromosome
  - iii) an additional twenty first chromosome
  - iv) an extra eighteenth chromosome
- d) Ribosomes help in \_\_\_\_\_.
  - i) lipogenesis
  - ii) cellular digestion
  - iii) protein synthesis
  - iv) photosynthesis
- e) The granular structures found attached with endoplasmic reticulum are \_\_\_\_\_.
  - i) ribosomes
  - ii) lysosome
  - iii) desmosome
  - iv) kinetosome
- f) Lysosomes are called suicide bags because of \_\_\_\_\_.
  - i) hydrolytic enzymes
  - ii) phagocytic activity
  - iii) proteolytic activity
  - iv) respiratory enzymes

**B) Attempt all the following: (06)**

- a) Who discovered the Golgi apparatus?
- b) Write the types of endoplasmic reticulum.
- c) Name the cell in which mitochondria are absent.
- d) Define genotype.
- e) Define F<sub>1</sub> generation.
- f) Define parents P<sub>1</sub> and P<sub>2</sub>

**P. T. O.**

- Q. 2** Attempt **ANY THREE** of the following: (12)
- a) Describe ultrastructure of eukaryotic cell.
  - b) Describe ultrastructure of nucleus in brief.
  - c) Give an account on law of dominance with suitable example.
  - d) Define eugenics. Explain positive eugenics.
- Q. 3** Attempt **ANY FOUR** of the following: (12)
- a) Write a short note on functions of endoplasmic reticulum.
  - b) What are ribosomes? Give their functions.
  - c) Describe Klinefelter's syndrome.
  - d) Describe complete dominance.
  - e) Write a short note on euploidy.
- Q. 4** Attempt **ANY TWO** of the following: (12)
- a) Write an essay on Golgi complex.
  - b) Give an account on the ultrastructure of mitochondria and add a note on its functions.
  - c) Describe the structure of generalized chromosome.
- Q. 5** Attempt **ANY TWO** of the following: (12)
- a) Explain the law of independent assortment with suitable example.
  - b) Give detailed account of structural changes in chromosomes.
  - c) What is cytoskeleton? Write structure and functions of microtubules.

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