

**F.Y.B.SC. SEM – I (CBCS - 2016 Course) : WINTER - 2018**  
**SUBJECT: ZOOLOGY : CELL BIOLOGY & GENETICS**

Day: Saturday  
Date: 27/10/2018

**W-2018-0691**

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)** Cellular organelle containing hydrolytic enzymes are called as \_\_\_\_\_ .
- |               |               |
|---------------|---------------|
| i) microsomes | ii) lysosomes |
| iii) oxysomes | iv) ribosomes |
- b)** Eukaryotic cells differ from prokaryotic cells in having \_\_\_\_\_ .
- |                   |                           |
|-------------------|---------------------------|
| i) ribosomes      | ii) endoplasmic reticulum |
| iii) true nucleus | iv) cytoplasm             |
- c)** Phospholipid molecules are \_\_\_\_\_ .
- |                  |                |
|------------------|----------------|
| i) alkaline      | ii) acidic     |
| iii) amphipathic | iv) amphoteric |
- d)** Genetics is the branch of science which deals with the study of \_\_\_\_\_ .
- |  |                      |
|--|----------------------|
| i) inheritance and variation                 | ii) cell structure   |
| iii) relation between plants and environment | iv) therna structure |
- e)** Law of independent assortment can be explained with the help of \_\_\_\_\_ .
- |                       |                    |
|-----------------------|--------------------|
| i) test cross         | ii) back cross     |
| iii) monohybrid cross | iv) dihybrid cross |
- f)** Genetic composition of Turner's syndrome is \_\_\_\_\_ .
- |               |              |
|---------------|--------------|
| i) 44 + XXX   | ii) 44 + XO  |
| iii) 44 + XYY | iv) 44 + XXY |

**P.T.O.**

- B)** Attempt all the following : **(06)**
- a) What is the main function of mitochondria?
  - b) Define microfilament.
  - c) Who coined the term endoplasmic reticulum?
  - d) Define offspring.
  - e) Define homozygous individual.
  - f) Define Punnet square.

- Q.2** Attempt any **THREE** of the following: **(12)**
- a) Describe ultrastructure of eukaryotic cell.
  - b) Describe ultrastructure of nucleus in brief.
  - c) Define eugenics. Explain positive eugenics.
  - d) Describe inversion.

- Q.3** Attempt any **FOUR** of the following: **(12)**
- a) Write functions of lysosome.
  - b) Write functions of Golgi complex.
  - c) Describe Down's syndrome.
  - d) Write short note on aneuploidy.
  - e) Describe incomplete dominance.

- Q.4** Attempt any **TWO** of the following : **(12)**
- a) Describe structure and functions of mitochondria.
  - b) Give an account of law of dominance with suitable example.
  - c) Give an account of the chromosome with reference to ultrastructure and functions of chromosome.

- Q.5** Attempt any **TWO** of the following : **(12)**
- a) Explain the law of independent assortment with suitable example.
  - b) Describe types, structure and functions of endoplasmic reticulum.
  - c) Describe fluid mosaic model of the plasma membrane. Write its functions.