

# HALF YEARLY EXAMINATION, 2017-18

## BIOLOGY

Time : 3 hrs.

Class XII

MM: 70

Name of the student \_\_\_\_\_ Section \_\_\_\_\_ Date-16.09.2017 (Saturday)

### General Instructions:

- There are a total **26 questions** and **5 sections**.
- **Section A** contains question number **1 to 5** of **1 mark** each. **Section B** contains question number **6 to 10** of **2 marks** each. **Section C** contains question number **11 to 22** of **3 marks** each. **Section D** contains question number **23**, value based question of **4 marks**. **Section E** contains question number **24 to 26** of **5 marks** each.
- There are no overall choices. However, internal choice has been provided in one question of 2 marks, in one question of 3 marks and all the questions of 5 marks. An examinee is to attempt any one question out of the two given in the question paper with the same question number.

### SECTION – A

- Q.1 Why are sticky ends so called?
- Q.2 Give an example of false fruit and true fruit.
- Q.3 What are the major components of seminal plasma?
- Q.4 Name any two autosomal linked recessive Mendelian disorders.
- Q.5 What are the number of base pairs in -  
a) Man                      b) E-coli

### SECTION – B

- Q.6 a) What is Punnett square?  
b) What is Monohybrid cross?
- Q.7 a) Name the scientist who disproved spontaneous generation theory.  
b) What is Saltation according to De-Vries.
- Q.8 a) State the role of C-peptide in human insulin.  
b) What do the Letters Bt stand for in Bt cotton plants?
- Q.9 What are palindromes? Give example.
- Q.10 Draw a well labelled diagram of blastocyst.

OR

What is Parturition? Name hormone which controls it.

### SECTION – C

- Q.11 Differentiate between the following :
- a) Gametogenesis and Embryogenesis  
b) Juvenile phase and Senescent phase  
c) Zoospore and Zygote
- Q.12 Draw a well labelled diagram of Anotropous ovule.
- Q.13 a) Name the phase in the menstrual cycle that precedes ovulation.  
b) What is semen?  
c) Differentiate between Graafian follicle and Corpus Luteum.

- Q.14** a) Differentiate between IUT and IUI.  
b) Describe the 2 different type of IUDs, with an example of each.
- Q.15** a) Name any one plant and its feature that shows the phenomenon of incomplete dominance.  
b) What are restriction sites? Give example.  
c) Give an example where males are XO.
- Q.16** Who was the first to map chromosomes? What formed the basis for it?
- Q.17** Describe Harshey and chase experiment in short.
- Q.18** a) What are bacteriophages?  
b) Name negatively and positively charged components of nucleosome.  
c) Differentiate between leading and lagging strand of DNA.
- Q.19** Describe Lac operon with example.
- Q.20** What is RNA interference?
- Q.21** a) Name the first transgenic cow developed.  
b) What is PCR?  
c) What is Biopiracy?
- Q.22** Draw a labelled diagram of sparged stirred-tank bioreactor.

**OR**

Explain Gel Electrophoresis with labelled diagram.

### **SECTION – D**

- Q.23** A village health worker was taking session with women. She tells the women that one has to be very careful while using oral pills as method of birth control. Wrong usage can actually promote conception.
- a) Analyze the statement and compare the merits and demerits of using oral pills and surgical methods of birth control.
- b) Village women was confused as to how a thin metallic copper loop can provide protection against pregnancy. Justify the use explaining the mode of action of IUDS.

### **SECTION – E**

- Q.24** Describe oogenesis in human female with labelled diagrams.

**OR**

Describe development of pollen grain with labelled diagrams.

- Q.25** Describe Replication of DNA.

**OR**

Describe DNA fingerprinting.

- Q.26** Describe rDNA technology with labelled diagrams.

**OR**

- a) Explain the function of the following :
- i) promoter                      ii) sigma factor                      iii) UTR
- b) Draw a schematic diagram of double stranded dinucleotide DNA chain having all the four nitrogenous bases and showing the correct polarity.

