

Sig. of Supdt. ....

KT-XII-1601  
**BIOLOGY**  
(Part - II)  
(Fresh / New Course)

Roll No. ....

Fig. # .....

Fig. # .....

Total Marks: 85

**BIOLOGY**  
(Part - II)  
(Fresh / New Course)

Time Allowed : 3 Hrs.

Marks: 18

**Section "A"**

Time : 20 Mins.

**NOTE :** Section-A is compulsory. All parts of this section to be answered on the questions paper itself. It should be completed in the given time and handed over to the Centre Superintendent. Deleting / Overwriting is not allowed. Do not use lead pencil.

**NOTE :** Insert the correct option (a, b, c, d) in the empty box opposite to each part.

Q. 1 Insert the correct option (a, b, c, d) in the empty box opposite to each part. Each part carries one mark.

- i) The corpus luteum is found at the site of ..... b
  - (a) Fertilization
  - (b) Ovulation
  - (c) Menstruation
  - (d) Implantation
- ii) All papillae on tongue contain taste buds excepts ..... d
  - (a) Fungi form
  - (b) Foliate
  - (c) Circumvallate
  - (d) Filiform
- iii) Skeletal muscle fibre may be red, due to the presence of ..... b
  - (a) Haemoglobin
  - (b) Myoglobin
  - (c) Oxy haemoglobin
  - (d) Carboxy haemoglobin
- iv) ..... lobe of pituitary gland is made from nervous tissues. b
  - (a) Anterior
  - (b) Posterior
  - (c) Median
  - (d) None of these
- v) The protective coat which surrounds the embryo is ..... a
  - (a) Amnion
  - (b) Chorion
  - (c) Allantois
  - (d) Yolk sac
- vi) Enzyme used to cut DNA molecule into piece is called ..... d
  - (a) Ligase
  - (b) Lysozyme
  - (c) Lysosome
  - (d) Restriction enzyme
- vii) Fraternal twins result from the fertilization of ..... b
  - (a) Two ova by one sperm
  - (b) Two ova by two sperm
  - (c) One ovum by two sperms
  - (d) One ovum by one sperm
- viii) The type of gel most commonly used for long fragment DNA electrophoresis is ..... a
  - (a) Agarose
  - (b) Polyacrylamide
  - (c) Ligase
  - (d) Polymerase
- ix) A pain disorder involving the narrow muscle in the buttocks is known as ..... c
  - (a) Spondylosis
  - (b) Arthritis
  - (c) Piriformis syndrome
  - (d) Disc slip
- x) The Mid line of light band in sarcomere is called ..... c
  - (a) H-line
  - (b) M-line
  - (c) Z-line
  - (d) T-tubules
- xi) ..... proposed endosymbiosis hypothesis. a
  - (a) Lynn Margulis
  - (b) George Cuvier
  - (c) Morgan
  - (d) Darwin
- xii) AIDS is caused by ..... c
  - (a) Bacteria
  - (b) Protozoan
  - (c) Virus
  - (d) Mosquito
- xiii) By the process of division cleavage solid ball like structure is formed called ..... c
  - (a) Blastula
  - (b) Gastrula
  - (c) Morula
  - (d) Moroblastula
- xiv) Chancre appears at the site of bacterial invasion in ..... c
  - (a) AIDS
  - (b) Gonorrhoea
  - (c) Syphilis
  - (d) Genetal herpes
- xv) Study of proper utilization of economically important domestic animals is called ..... a
  - (a) Animal husbandry
  - (b) Wild life management
  - (c) Livestock management
  - (d) None of these
- xvi) 4 O'Clock flower is the example of ..... dominance. b
  - (a) Complete
  - (b) Incomplete
  - (c) Co-
  - (d) Over
- xvii) Some cells of embryo grow into a disk like structure called ..... b
  - (a) Umbilical cord
  - (b) Placenta
  - (c) Morola
  - (d) None of these
- xviii) The secondary Oocyte arrests in ..... b

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**BIOLOGY**  
(Part – II)  
(F... / New Course)

Total Marks : 67

Time Allowed : 2:40 Hrs.

**Section – B**

Marks : 40

**Q.2 Write short answers of any TEN of the following parts. Each part carries equal marks.**

- (i) Discuss sex linkage in *Drosophilla*.
- (ii) What are the signs and symptoms of Otitis Media?
- (iii) Write down a short note on Haemoglobin molecule.
- (iv) Write down a short note on osmoregulation in Marine animals.
- (v) Why is insulin so vital for survival?
- (vi) How a gene of Interest can be located in a DNA (Genomic) library?
- (vii) How multiplication rule is used in Genetics?
- (viii) Why it is important that the Corpus Luteum remains functional following implantation?
- (ix) How transgenic animals can be created?
- (x) Describe the structure of a gene.
- (xi) What is the role of microbes in waste treatment?
- (xii) What is ex-vivo and in-vivo mechanism of gene therapy?
- (xiii) Differentiate between Callus culture and protoplasmic culture.

**Section – C**

Marks : 27

**NOTE :** Attempt any THREE questions. Each question carries equal marks.

- Q. 3 Discuss the process of protein synthesis (translation) in detail.
- Q. 4 Describe in detail the causes, symptoms and treatment of Down's syndrome.
- Q. 5 What is multiple alleles? Explain this phenomenon with the help of ABO blood group system of human?
- Q. 6 Write note on any TWO of the following.
  - a) Types of muscles
  - b) Synapse
  - c) Thyroid gland