

Answer Q₁ and Q₂ is compulsory

where as answer any three from Gr-B & Gr-C

Q₁ :

Choose the Correct Answer

1 x 10

- (a) The Stem cells have already been applied successfully for -
(i) Acute & chronic Leukemia
(ii) Sickle cell anaemia
(iii) SCID
(iv) All of the above
- (b) The phenomenon in which genes are present on the same chromosome is
(i) Crossing over (ii) Linkage (iii) Segregation
(iv) assortment
- (c) How many distinct life stages are there in incomplete metamorphosis ?
(i) 2 (ii) 3 (iii) 4 (iv) 5
- (d) The structure which remains unchanged during metamorphosis of Frog's tadpole is -
(i) Heart (ii) Lung (iii) Intestine
(iv) Nervous system
- (e) Pleiotropic genes are those which have
(i) Single phenotype
(ii) Multiple genotype
(iii) Multiple phenotype
(iv) Single genotype
- (f) The extraembryonic membrane of Mammalian embryo is derived from -
(i) Formative cells
(ii) Follicle cells
(iii) Trophoblasts

(g) Which type of cell division occurs during cleavage —

- (i) Mitosis (ii) Meiosis (iii) Both (a) and (b)
(iv) None

(h) A point mutation that replaces a purine with another purine or a pyrimidine with another pyrimidine —

- (i) Nonsense mutation (ii) Silent mutation
(iii) Transition mutation (iv) Transversion

(i) Mitochondrial DNA is present in —

- (i) Prokaryotic cell
(ii) Eukaryotic cell
(iii) Both (a) and (b)
(iv) None

(f) Damage and Errors in DNA Cause

- (i) Mutation
(ii) DNA repair
(iii) Translation
(iv) Transcription

Q₂. Write short notes on any three of the following - 5X3

(a) Epistasis

(b) Multiple allelism

(c) Non-DNA repair

(d) Tetrad analysis in Neurospora

(e) Fate Maps

(f) Implantation

(g) IVF.

Gr-B.
Answer three Questions
not more than two from a Group.

Set-I
3 $15 \times 3 = 45$

- Q3. What do you mean by term Metamorphosis. (15)
Describe the process and hormonal regulation of Amphibian metamorphosis.
- Q4. What is cleavage? Describe the characteristics and physiology of cleavage. (15)
- Q5. Define uterine cycle. Describe the Menstrual Cycle. Add a note on its hormonal regulation. (2+10+3.)

Gr-C.

- Q6. Describe the Mendelian principles of Genetics on the basis of crosses made by Mendel. (15)
- Q7. What is Gene mutation? Describe different principles of gene mutation in detail. (15)
- Q8. Describe the organization and functions of Mitochondrial DNA.

Answer of Objective Qs

- (a) IV
(b) II
(c) (ii)
(d) IV
(e) III
(f) III
(g) (J)
(h) III
(i) II
(j) (i)

Dr. SBLAL
HOD, Zoology
K.U.