

Roll No. of Candidate : _____

BIOLOGY

(Intermediate Part-II , Class 12th) 422 - (I)

Paper II

(Group – I)

Time: 20 Minutes

OBJECTIVE Code: 8461 **C4TQ1-22**

Marks: 17

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank.

1. Fresh water flatworms excrete very dilute _____.
(A) plasma (B) tissue fluid (C) uric acid (D) urine
2. Rickets is a disease in children with _____.
(A) soft bones (B) herniation
(C) bowed legs and deformed pelvis (D) arthritis
3. The living cells of cartilage are called _____.
(A) chondrocytes (B) osteoblasts (C) osteocytes (D) osteoclasts
4. Antidiuretic hormone (ADH) is also called as _____.
(A) oxytocin (B) vasopressin (C) androgen (D) oestrogen
5. Menstruation usually lasts for _____ days.
(A) 3 – 7 (B) 3 – 9 (C) 1 – 3 (D) 1 – 2
6. An inevitable process is _____.
(A) regeneration (B) induction (C) abnormal development (D) aging
7. Meristems are young tissues or group of cells that retain the potential to _____.
(A) penetrate (B) regenerate (C) divide (D) survive
8. Which one bears greater molecular mass among following nitrogenous base of nucleic acid _____.
(A) guanine (B) thymine (C) cytosine (D) uracil
9. The plane of new cell wall formation in a dividing cell is determined by _____.
(A) microtubules (B) golgi bodies (C) endoplasmic reticulum (D) mitotic apparatus
10. The significance of mitosis is that it _____.
(A) takes place in all cells (B) ensures the survival
(C) occurs under adverse conditions (D) produces identical cells
11. Enlargement of liver and spleen occurs in _____.
(A) haemophilia (B) pleiotropy
(C) erythroblastosis foetalis (D) hypophosphataemic rickets
12. Which one is used to make the animal eggs transgenic?
(A) particle gun (B) by agrobacterium (C) vortex mixing (D) micropropagation
13. For the treatment of familial hypercholesterolemia patients, a normal gene is inserted into patients through _____.
(A) retrovirus (B) agrobacterium (C) any bacterium (D) phage virus
14. Archaeobacteria can tolerate temperature upto _____.
(A) 120 °C (B) 130 °C (C) 140 °C (D) 110 °C
15. Succession is initiated by a few hardy invaders called _____.
(A) predators (B) pioneers (C) parasites (D) grazers
16. The desert ecosystem in Western Punjab is known as _____.
(A) Thar (B) Thal (C) Cholistan (D) Sahara
17. The population of Pakistan at the time of independence in 1947 was _____ million.
(A) 31.5 (B) 32.5 (C) 33.5 (D) 30.5

317-(I)-422-24000

Time: 2:40 Hours

SUBJECTIVE

Marks: 68

Note: Section I is compulsory. Attempt any THREE (3) questions from Section II.

(SECTION - D)**2. Write short answers to any EIGHT questions.**

(2 x 8 = 16)

- i. What is a renal failure?
- ii. Justify the importance of kidneys as vital organs.
- iii. Conclude whether hemodialysis or peritoneal dialysis is better than the other one.
- iv. How many different regions are present in vertebral column? Name them. Also write down number of vertebral in each region.
- v. Differentiate between cartilaginous joints and synovial joints.
- vi. Define smooth muscles.
- vii. What is the stimulus for ovulation in oestrous cycle?
- viii. Define genital herpes.
- ix. Write down plant and animal life of tundra ecosystem.
- x. Differentiate between phytoplankton and zooplankton.
- xi. What are the consequences of population increase?
- xii. What are four different effects of acid rain?

3. Write short answers to any EIGHT questions.

(2 x 8 = 16)

- i. How epilepsy is characterized and diagnosed?
- ii. Give any two types of hormones with examples on the basis of composition.
- iii. Justify that calcitonin is antogonistic to parathormone.
- iv. Differentiate between phenotype and genotype.
- v. Differentiate between diabetes mellitus type-I and diabetes mellitus type-II.
- vi. Give example and illustrate sex limited trait.
- vii. Narrate how gene of interest can be made from mRNA?
- viii. What are palindromic sequences? Write down palindromic sequence for Eco R1.
- ix. How bacterial cells can take up recombinant plasmid?
- x. Differentiate between primary and secondary consumers.
- xi. Give an example and write down about commensalism.
- xii. Justify that lichens are examples of mutualism.

4. Write short answers to any SIX questions.

(2 x 6 = 12)

- i. If all the cells contain same nuclear material, what causes the cells to differentiate?
- ii. Which type of cleavage is found in bird's egg? Discuss briefly.
- iii. Enlist initiation codon and nonsense codons.
- iv. Why a cap and tail is added to mRNA?
- v. What is transformation?
- vi. Sketch and label cell cycle.
- vii. What is metastasis?
- viii. Which idea is known as endosymbiont hypothesis?
- ix. What is the difference between endangered species and threatened species?

(SECTION - II)

5. (a) Give osmoregulatory adaptations in terrestrial animals. (4)
- (b) Define ecosystem. Describe its components. (4)
6. (a) Explain the type of growth in plants due to which diameter of their stem increases. (4)
- (b) What is genetic code? Explain the essential features of genetic code. (4)
7. (a) Suggest the various commercial applications of auxins & gibberellins. (4)
- (b) Describe the various reasons for world population explosion. (4)
8. (a) Explain and draw human female reproductive cycle. (4)
- (b) Write down a note on "Epistasis" and "Bombay Phenotype". (4)
9. (a) Explain the phenomenon of embryonic induction. (4)
- (b) Many factors can alter the gene frequency. Discuss various factors responsible for evolutionary change. (4)

Roll No. of Candidate : _____

BIOLOGY

(Intermediate Part-II , Class 12th) 422 - (II)

Paper II

(Group - II)

Time: 20 Minutes

OBJECTIVE Code: 8464

Marks: 17

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank.

GUT-422

1. Blood group AB of both parents can have babies of which blood groups?
(A) A (B) B (C) O (D) AB, A, B
2. Primary growth in plants is caused by _____.
(A) apical meristem (B) lateral meristem (C) intercalary meristem (D) open meristem
3. Neurula is the stage in which embryo has _____.
(A) blastocoel (B) germ layers (C) neural tube (D) archenterons
4. The nastic movements are _____.
(A) directional (B) non-directional (C) spontaneous (D) all of these
5. Grass land without trees are called _____.
(A) prairies (B) pampas (C) savanna (D) rainy grassland
6. Which one is not a steroid hormone?
(A) oestrogen (B) cortisone (C) testosterone (D) insulin
7. The paired bones of cranium are parietal and _____.
(A) occipital (B) ethmoid (C) sphenoid (D) temporal
8. For maturation of T and B cells the enzyme required is _____.
(A) GDA (B) TDA (C) ADA (D) CDA
9. All the food chains begin with _____.
(A) primary consumer (B) producer (C) secondary consumer (D) decomposer
10. Each nephridium of earthworm opens to the exterior by _____.
(A) nephrostome (B) nephridiopore (C) anus (D) cloaca
11. Pachytene is characterized by _____.
(A) crossing over (B) condensation (C) maturation (D) differentiation
12. The smallest biological unit that can evolve over time is _____.
(A) cell (B) organism (C) population (D) species
13. The principal source of energy is _____ energy.
(A) nuclear (B) solar (C) geothermal (D) tidal
14. Corpus leuteum secretes _____.
(A) FSH (B) progesterone (C) LTH (D) LH
15. G₀ stage lasts for life time in _____.
(A) nerve cells (B) eye lens cells (C) sex cells (D) both (A) & (B)
16. In bacteria the newly synthesized mRNA is released in _____.
(A) nucleus (B) cytoplasm (C) mitochondria (D) both (B) & (C)
17. Which one is incorrectly matched?
(A) protoplast – plant cell engineering (B) DNA polymerase – PCR
(C) RFLPS – DNA finger printing (D) DNA ligase – mapping human chromosomes

318-(II)-422-24000

Time: 2:40 Hours

SUBJECTIVE

Marks: 68

Note: Section I is compulsory. Attempt any THREE (3) questions from Section II.

(SECTION – I)

B-447-92-22 (2 x 8 = 16)

2. Write short answers to any EIGHT questions.

- i. How negative feedback mechanism helps body to regulate temperature?
- ii. How do bony fishes excrete extra salt in marine environment?
- iii. Give the adaptations of plants in freezing temperature for thermoregulation.
- iv. Differentiate between phototropism and chemotropism.
- v. What are synovial joints? Name its types.
- vi. What is the cause of muscle fatigue?
- vii. Highlight the uses of clone cells for investigating use of pharmaceutical products.
- viii. Differentiate between oviparous and viviparous animals.
- ix. What are planktons? Give their types.
- x. What is layering? Give one example of each layer.
- xi. Differentiate between afforestation and reforestation.
- xii. Define pollution. Write down names of its types.

3. Write short answers to any EIGHT questions.

(2 x 8 = 16)

- i. Give the difference between chlorosis and etiolation.
- ii. How is it that different nerve fibres transmit different modalities of sensation?
- iii. What is Nissl's granules? Give their relation to Golgi bodies.
- iv. Differentiate between phenotype and genotype.
- v. Explain gene pool for a single particular trait.
- vi. What is probability?
- vii. How to get a gene of interest?
- viii. What are plasmids? Give their types and functions.
- ix. What are RFLPs? Give their importance.
- x. Define and explain community ecology.
- xi. Discuss abiotic components of an ecosystem.
- xii. Differentiate between hydrosere and xerosere succession.

4. Write short answers to any SIX questions.

(2 x 6 = 12)

- i. How thickness of plant body increases?
- ii. How missing organs of an adult animal develop? Discuss it.
- iii. In which direction DNA polymerase synthesizes new strands of DNA. Comment on it.
- iv. What is nucleosome?
- v. Differentiate between conservative and semi-conservative DNA replication.
- vi. What is metastasis?
- vii. Distinguish apoptosis from necrosis.
- viii. What are vestigial organs? Give examples.
- ix. Differentiate between endangered from threatened species.

(SECTION - II)

5. (a) What are different problems associated with kidney? How can they be cured? (4)
- (b) Explain grazing in detail. Discuss ill effects of over-grazing? (4)
6. (a) Demonstrate the ultrastructure of myofilaments. (4)
- (b) Describe Watson and Crick's model of DNA. (4)
7. (a) How action potential is produced in a neuron? Discuss different factors involved in action potential. (4)
- (b) Explain the phenomenon of eutrophication. (4)
8. (a) Write down a note on seed dormancy. (4)
- (b) Explain epistasis with the help of an example. (4)
9. (a) Describe the role of nucleus in development. (4)
- (b) When did Charles Darwin presented his theory "The origin of species"? (4)
Highlight the main points of this theory. How was this theory modified later?