

**Biology**

**Paper II (Objective Type)**

**Time Allowed: 20 Minutes**

**GROUP - I**

**Maximum Marks: 17**

**NOTE:** You have four choice 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 circle. Cutting or filling two or more circles will result in zero mark in that question. Attempt as many questions as given in objective type questions papers and leave others blank. No credit will be awarded in case, BUBBLE are not filled. Do not solve questions on this sheet of OBJECTIVE PAPER.

- Q1.(1) Which one of the following structures of kidney is involved in the production of concentrated urine:**  
 (A) Glomerulus (B) Juxtamedullary nephron  
 (C) Cortical nephron (D) Vasa recta
- (2) The body temperature regulation in human is based on complex homeostatic thermostat present in the:**  
 (A) Cerebrum (B) Medulla oblongata (C) Hypothalamus (D) Thalamus
- (3) Collagen fibers of bone are hardened by the deposit of:**  
 (A) Calcium phosphate (B) Sodium phosphate  
 (C) Sodium carbonate (D) Calcium carbonate
- (4) The synovial joint is surrounded by a layer of connective tissue called:**  
 (A) Ligament (B) Nucleus pulposus (C) Annulus fibroses (D) Fibrous capsule
- (5) The onset of epilepsy usually occurs before the age of:**  
 (A) 25 years (B) 50 years (C) 30 years (D) 35 years
- (6) All of the following animals are the haploid parthenogenetic except:**  
 (A) Wasps (B) Aphids (C) Honey bees (D) Ants
- (7) Uterus opens into the vestibule (vagina) through:**  
 (A) Cervix (B) Ureter (C) Oviduct (D) Uterine tube
- (8) Vitamins are the organic compounds synthesized within the plant bodies in the presence of:**  
 (A) Water (B) Nutrients (C) Light (D) Oxygen
- (9) DNA polymerase only adds nucleotides to the end:**  
 (A) 5'-end (B) 3'-end (C) 2'-end (D) 4'-end
- (10) The presence of invading cells other than normal tissue is an indication of:**  
 (A) Melatoma (B) Abnormality (C) Mutation (D) Malignancy
- (11) The condensation of chromosomes reaches to its maximum during:**  
 (A) Diakinesis (B) Pachytene (C) Zygotene (D) Leptotene
- (12) The individual called universal recipient has:**  
 (A) B-blood group (B) O-blood group (C) AB-blood group (D) A-blood group
- (13) Patients of cystic fibrosis often die due to numerous infections of the:**  
 (A) Respiratory tract (B) Excretory tract (C) Digestive tract (D) Reproductive tract
- (14) Emigration and immigration of members of a population, cause disturbance in the:**  
 (A) Genotype (B) Genetic drift (C) Phenotype (D) Gene pool
- (15) Succession begins by a few hardy invaders, called:**  
 (A) Initiators (B) Pioneers (C) Founders (D) Creators
- (16) The soil of grass-land is basically impermeable with excessive:**  
 (A) Neutral pH (B) Acidity (C) Salinity (D) Moisture
- (17) Our daily energy requirement met by fossil fuels is:**  
 (A) 95% (B) 75% (C) 80% (D) 85%

**ANSWERS:**

<b>(1)</b>	A	<b>(2)</b>	C	<b>(3)</b>	A	<b>(4)</b>	D	<b>(5)</b>	C	<b>(6)</b>	B
<b>(7)</b>	B	<b>(8)</b>	C	<b>(9)</b>	B	<b>(10)</b>	D	<b>(11)</b>	A	<b>(12)</b>	C
<b>(13)</b>	A	<b>(14)</b>	D	<b>(15)</b>	B	<b>(16)</b>	D	<b>(17)</b>	A		

NOTE:- Write same question number and its part number on answer book, as given in the question paper.

**SECTION-I**

2. Write short answers to any EIGHT (8) questions : 16
- i. Give the characteristics of xerophytic plants.
  - ii. What is counter current multiplier?
  - iii. State renal failure.
  - iv. Compare phototropism and geotropism.
  - v. What is plantigrade? Also give examples.
  - vi. Differentiate between ligaments and tendons.
  - vii. What are test tube babies?
  - viii. Give some advantages and disadvantages of cloning.
  - ix. Write a note on profundal zone.
  - x. What is layering in ecosystem?
  - xi. Mention any four ways in which we can save energy.
  - xii. Give the importance of ozone layer.
3. Write short answers to any EIGHT (8) questions : 16
- i. How plants respond to various stimuli?
  - ii. Differentiate between etiolation and chlorosis.
  - iii. Give commercial applications of auxins.
  - iv. How sex determination occurs in yeast?
  - v. Describe sex influenced traits.
  - vi. What is Bombay phenotype?
  - vii. Define the term totipotent.
  - viii. Compare ex-vivo gene therapy with in-vivo gene therapy.
  - ix. Elaborate the uses of plasmids
  - x. How primary succession differs from secondary succession?
  - xi. Define hydrosere and xerosere.
  - xii. Write down the significance of root nodules in plants.
4. Write short answers to any SIX (6) questions : 12
- i. Define growth.
  - ii. What do you mean by lateral meristem?
  - iii. Define one-gene-one polypeptide hypothesis.
  - iv. What do you mean by mutations?
  - v. Define nucleotide and nucleoside.
  - vi. Define meiosis and mitosis.
  - vii. What do you mean by non-disjunction?
  - viii. Define theory of special creation. Who proposed it?
  - ix. What do you mean by non-random mating?

**SECTION - II**

**Note :** Attempt any THREE questions.

5. (a) Give four major homeostatic functions of liver. 4
- (b) What is succession? Describe process of succession on a dry soil. 1.3
6. (a) Give importance of skeleton. 4
- (b) Describe types of chromosomes on the basis of centromere. 4
7. (a) Explain the structure and function of thyroid gland. 4
- (b) What is pollution? Explain the phenomenon of air pollution. 4
8. (a) Explain sexually transmitted diseases in human. 4
- (b) Explain in detail diabetes mellitus and its types. 4
9. (a) Describe the role of nucleus in development. 4
- (b) Describe the factors affecting gene frequency of a population. 4