
Answers to this Paper must be written on the paper provided separately. You will not be allowed to write during the first 15 minutes. This time is to be spent in reading the question paper. The time given at the head of this Paper is the time allowed for writing the answers.

Section A is compulsory. Attempt any five questions from Section B. The intended marks for questions or parts of questions are given in brackets.

SECTION A (40 Marks)

(Attempt all questions from this section)

I. Choose the correct option.

[15]

- The most rapidly increasing and much harmful waste today is
 - Plastic
 - Municipal sewage
 - Pesticides
 - Electronic waste
- The alphabet 'C' in NICD stands for
 - Cancer
 - Communicable
 - Community
 - Campaign
- DPT Stands for
 - Diphtheria, Polio and Tetanus
 - Dysentery, Polio and Typhoid
 - Diphtheria, Pertussis and Tetanus
 - Diphtheria, Polio and Typhoid
- BCG Vaccine provides immunity against:
 - Tetanus
 - Cholera
 - AIDS
 - Tuberculosis
- The protective membranous covering of lung is:
 - Capsule
 - Pericardium
 - Epithelium
 - Pleura
- Anaerobic respiration in animals mostly occurs in
 - Cardiac muscles
 - Skeletal muscles
 - Both 1 and 2
 - Smooth muscles
- The visible part of the hair is :
 - Hair bulb
 - Hair follicle
 - Hair papilla
 - Hair Shaft
- The inorganic constituents of bones are:
 - Calcium and sodium
 - Calcium and phosphorus
 - Carbon and nitrogen
 - Calcium and carbon
- The type of joint found at shoulder is also found at:
 - Elbow
 - knee
 - Ankle
 - Hip

10. The hardest substance in the human body:

- a) Bone
c) Cement
- b) Enamel
d) Dentine

11. Ascorbic acid is vitamin:

- a) C
c) B
- b) D
d) A

12. Which of the following is a catabolic process?

- a) Photosynthesis
c) Both (a) and (b)
- b) Respiration
d) None of these

13. Glycolysis takes place in:

- a) Chloroplast
c) Cytoplasm
- b) Mitochondria
d) Ribosomes

14. The distinct whitish oval scar on the concave side of the seed is termed as:

- a) Scutellum
c) Hilum
- b) Micropyle
d) Germopore

15. Perianth is the collective term for a group of:

- a) Sepals
c) Bracts
- b) Tepals
d) Petals

II. Name the following.

- The process of disposal of waste by burning. [5]
- The medicines made by the combination of penicillin and sulphadiazine.
- A disease that weakens body's defence system against infections.
- The muscles found between the ribs which can change the size of the chest cavity lengthwise.
- A common phase in both aerobic and anaerobic respiration.

III. Fill in the blanks.

- In Glycolysis glucose breakdown into _____ . [5]
- _____ is surrounded by microtubules, located near the nucleus.
- _____ glands open on the margins of the eyelids.
- _____ prevents food from entering the trachea during swallowing.
- Different timings or maturation of gynoecium and androecium, is called _____ .

IV. Mention whether the following statements are true or false if false rewrite the sentence.

- Plumule develops into the root system. [5]
- Aerobic respiration of one mole of glucose yields 138 ATP.
- Cellulose in our food passes out undigested.
- Keratin protects us from ultra violet rays.
- Rags are the plant residue left after extracting the sugarcane juice.

V. Match the column.

Column A	Column B
1. Bronchi	a) Emulsified fat
2. Ptyalin	b) A common passage for food and air
3. Coleorhiza	c) Tocopherol
4. Vitamin E	d) Radicle

5. Cancer	e) Inverted Y shaped tube
	f) Starch
	g) Leukemia

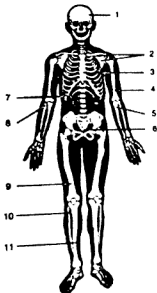
VI. Note the relationship between the first two words and suggest a suitable word/words for the blank place. [5]

- (a) Sepals : Calyx :: Petals : _____
 (b) Pollen grains : Anther :: Ovules : _____
 (c) Malaria : Plasmodium :: Filariasis : _____
 (d) Mumps : viral disease :: Typhoid : _____
 (e) Petals : Polypetalous :: Stamens : _____

SECTION B (40 Marks)

(Attempt any four questions from this sections)

- ✓ VII. a) Define: mine tailing. [1]
 b) Differentiate between vaccination and sterilization. [2]
 c) "Abnormally large number of WBCs in the blood are usually an indicator of some infection in our body". Comment on the statement [2]
 d). Given below is a diagram of human skeleton. Name the bones numbered I to 11 [5]

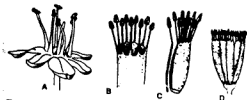


- VIII. a) Define: Prophylaxis. [1]
 b) Why do you shiver and why do your teeth chatter when it is very cold in winters? [2]
 c) Distinguish between Leukoderma/Vitiligo and Albinism. [2]
 d) What is the difference between an organ and an organelle? [2]
 e) Given below is an overall chemical reaction of a certain process: [3]

$$C_6H_{12}O_6 \rightarrow \text{Lactic acid} + 2ATP + \text{heat energy}$$

- i. Name the process.
- ii. Is this reaction applicable to animals or to plants or to both animals and plants?
- iii. Name one tissue in which this reaction may occur.

- ✓ IX. a) Explain: Disinfectants. [1]
- b) Write the exact location of the following: [2]
- i. Hypothalamus
 - ii. Melanin
- c) What are the uses of skeleton in our body? [2]
- d) The figures (A,B,C and D) given below represent different kinds of androecium. Name the kinds of androecium (A,B,C and D) and give one example of a flower having each. [5]



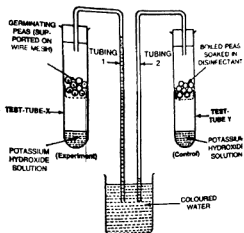
- ✓ X. a) Define piloerection. [1]
- b) Differentiate between burning and combustion. [2]
- c) Write the important roles of the following food components in our body. [2]
- i. Cellulose
 - ii. Proteins
- d) The figures (A,B, and C) given below represent a kind of protective method in our body. Study the same and answer the following questions. [5]



- i. Name and define the process in figure A
- ii. What kind of blood cell is shown in the figures? Write its technical name also.
- iii. What kind of blood vessels is shown in the figure A? Write its one specific structural feature.

- XI. a) Define Asphyxiation. [1]
- b) Why are proteins necessary in our food. [2]
- c) Write short note on Emasculation. [2]
- d) Explain the term "Vasodilation" and "Vasoconstriction". How do these processes contribute in the regulation of the body temperature. [5]

- XII. a) Define: Antagonistic muscles [1]
- b) Why is it usually difficult to demonstrate respiration in green plants? [2]
- c) Differentiate between active immunity and passive immunity. [2]
- d) The following diagram refers to an apparatus which used to demonstrate the physiological process: [5]



- i. What is the purpose of keeping potassium hydroxide solution in the test tubes X and Y?
- ii. What is the purpose of keeping boiled seed soaked in a disinfectant in test tube Y?
- iii. Why has the coloured water risen in tubing 1.
- iv. Define the biological process shown in the experiment.