

## Annual Evaluation 2016 -17

# BIOLOGY

Standard : IX

Time : 1½ Hrs  
Total Score : 40

**Instructions**

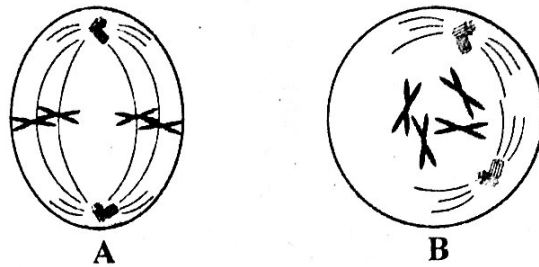
1. First 15 minutes is given as cool off time. This time should be used for reading and understanding the questions.
2. Read the questions and instructions thoroughly before answering.
3. The score and time for each question should be considered while answering.

**I. Answer all questions from 1 to 4.**

1. Identify the right pair from those given below. (1 Score)
  - (a) Contractile vacuole - Human being      (b) Kidney - Fish
  - (c) Nephridia - Cockroach                      (d) Malphigian tubule - Amoeba
2. Identify the odd term. Mention the common feature among others. (2 Score)
  - (a) Albumin, Haemoglobin, Globulin, Fibrinogen.
  - (b) Emphysema, Bronchitis, Uremia, Lung cancer.
3. Analyse the word pair relationship and fill in the blank. Mention the relation of the pairs. (2 Score)
  - a) Glucose                      :    blood capillaries
  - Fatty acid                 :    .....
  - b) Daughter chromosomes move to either pole : .....
  - Daughter nuclei are formed                      :    Telophase
4. Analyse the following statements and choose the right option from those given below. (1 Score)
  - A. Bundles of muscle fibres are called myofibrils.
  - B. Thick actin and thin myosin are the two types of myofilaments.
  - C. The region where both types of myofilaments are present is called dark band.
  - (a) A and B are true.                      (b) B and C are true.
  - (c) C alone is true.                        (d) B alone is true.

II. Answer any seven questions from 5 to 13. Each question carries 2 score. (7 x 2=14 Score)

5. Observe the stages of mitosis given below and answer the questions.

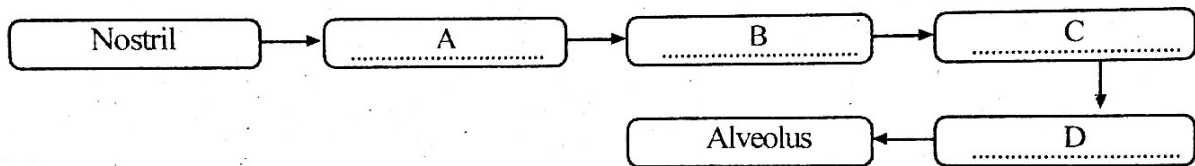


- Identify the stages A and B.
- Write one feature of each of the two stages.

6. Correct the error, if any, in the underlined part and rewrite the statements.

- Sarcomere are the basic contractile units of a muscle fibre.
- Sodium ions help in the binding of myosin and actin filaments.
- Accumulation of lactic acid in the muscles causes muscular fatigue.
- Ligaments are the fibres that connect the bones to the muscles.

7. Complete the flow chart related to human respiratory system.



8. Name the type of cell division in which no change in the chromosome number of the cell occurs. What is its importance?

9. Arrange the body movements given below in tabular form giving suitable titles.

- Movement of trachea
- Movement of limbs
- Movement of tongue
- Heart beat

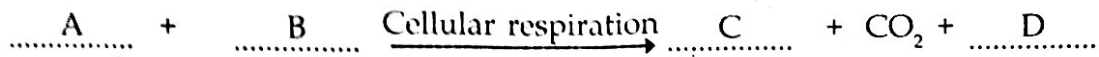
• .....	• .....
• .....	• .....
• .....	• .....

10. The result of blood pressure test of an individual is given below. Observe it and answer the following questions.

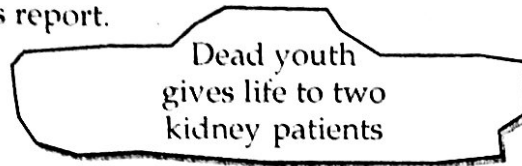
160/100 mm Hg

- What does each numerical value in the test result indicate?
- Should the individual change his life style? Substantiate your opinion.

11. Complete the chemical equation related to respiration appropriately.



12. Read the news report.



- How will you respond to this news report?
- Write two messages to put on the school wall magazine to create awareness on organ donation.

13. Given below is the blood test results of an individual who was admitted to a hospital with symptoms like anaemia, loss of weight and dizziness.

	Test result	Normal range
Uric acid	9.9 mg/dL	3.4 - 7 mg/dL
Urea	28.4 mg/dL	7 - 20 mg/dL
Creatinine	5.1 mg/dL	0.7 - 1.3 mg/dL

- Explain why the quantities of the components of blood changed from their normal range?
- Which method of treatment makes it possible to purify his blood and thus sustain his life? How is blood purified in this treatment?

III. Answer any four questions from 14 to 18. Each question carries 2 score.

(4 x 3=12 Score)

- List four important concepts to be included in the paper presentation for a seminar on the topic "Oldage is inevitable in life" as part of the 'International Day of Older Persons'.
- Complete the table related to plant movements suitably.

Movement	Stimuli	Plant part	Direction of movement
Geotropism	(a) .....	root	(b) .....
(c) .....	touch	stem	(d) .....
(e) .....	(f) .....	Pollen tube	Towards the direction of the chemicals produced

- Arrange the stages in muscle contraction in the right order, on the basis of the statements given below.
  - Myosin pulls actin filaments closer.
  - Myosin filaments bind with actin.
  - Muscle contracts.
  - Impulse reaches the muscle through the nerve.
  - Energy is released from ATP.
  - Calcium ions become active.

17. Arrange the facts in columns B and C to match those in column A.

A	B	C
I. Ball and Socket joint	a. Slight movement between the flat surfaces of two bones.	i. The point where the first vertebra joins with the skull
II Hinge joint	b Rotatory movement around an axis.	ii. Joint where hip bone and thigh bone meets
III. Gliding joint	c. Movement in all planes	iii. Knee joint
X	d. Movement to one direction only	iv. Wrist joint

18. Analyse the following statements and answer the questions given below.

Statement 1 : The chromosome number remains constant in all generations of a species.

Statement 2 : Meiosis is the type of cell division that occurs in the germinal cells.

- Does statement 2 substantiate statement 1.
- Give reason.

IV. Answer any two questions from 19 to 21. Each question carries 4 score.

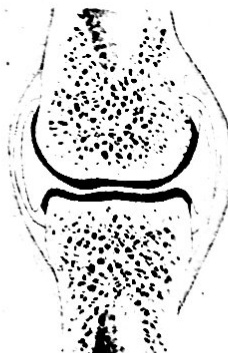
(4 x 2 = 8 Score)

19. Prepare a note on the topic 'Exercise for Health' on the basis of the hints given below.

**Hints**

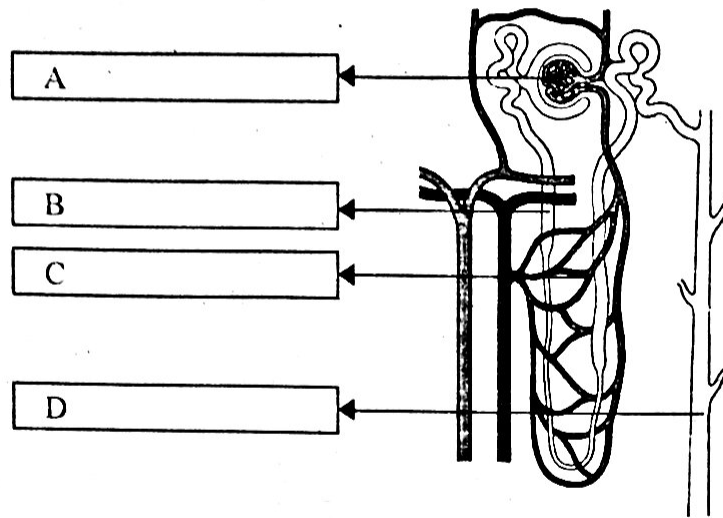
- Exercise and muscular system.
- Exercise and respiratory system.
- Exercise and circulatory system.
- Exercise and food habits.

20. Redraw the diagram and label the parts which perform the functions mentioned below.



- Functions as a lubricant between the bones.
- Covers and protects the joints.
- Prevents friction between the bones.

21. Statements related to the formation of urine are given below. Arrange them in the boxes of the diagram suitably. (Need not redraw the diagram)



- Excess urea from peritubular capillaries is secreted here.
- Reabsorption of ions from the renal tubule takes place here.
- Collects urine.
- Ultrafiltration takes place.