



**SECOND TERM SAMPLE PRACTICE PAPER  
BIOLOGY**

**Time : 1 ½ Hours**

**STD IX**

**Score : 40**

**Instructions**

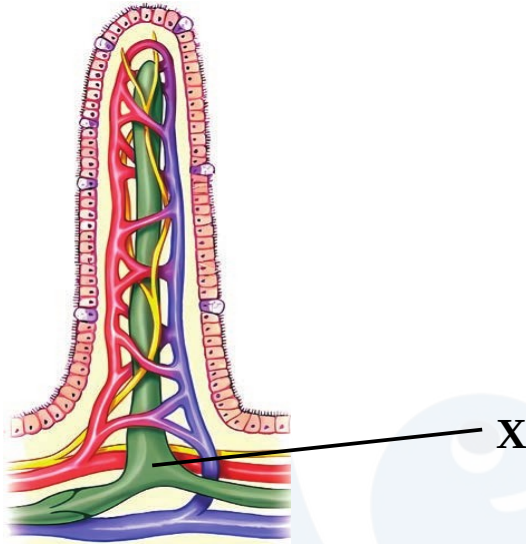
1. First 15 minutes is given as cool off time. This time is to be used for reading and understanding the questions.
2. Read the questions and instructions carefully and answer the questions.
3. Keep in mind the score and time while answering the questions.

**I Answer any 5 questions from 1 to 6. One score each.  
(5X1=5)**

1. What is the normal level of hemoglobin in women? (1)
  - i) 12 -16 gm/dL
  - ii) 14 -18 gm/dL
  - iii) 10 - 14 gm/dL
  - iv) 8 - 11 gm/dL
2. Analyse the statements and choose the correct answer from those given. (1)
  - A) Enzymes are molecules which help to speed up the chemical reactions that take place in organism
  - B) Hormones are chemical molecules that regulate and coordinate biological processes.
  - C) Salivary amylase and pepsin are examples for hormones.
  - D) Hormones are produced by various endocrine glands.
    - i) A, B are right. C , D are wrong
    - ii) A, B , C are right. D is wrong
    - iii) A, C are right. B , D are wrong
    - iv) A, B , D are right. C is wrong

3. Write the name of the part labelled as 'X' in the figure.

(1)



4. Choose the correct pair.

(1)

- Euglena - Cilia
- Amoeba - Pseudopodia
- Paramecium - Flagellum
- Fishes - Flippers

5. A person's urine analysis is found to contain the following components. Identify the diseases associated with each and write the correct answer

(1)

**Hint :** i) Bilirubin , ii) Pus cells

- i) Diabetes ii) Jaundice
- i) Jaundice ii) Kidney diseases
- i) Urinary tract infection ii) Kidney stone
- i) Jaundice ii) Urinary tract infection

6. Correct the mistakes if any, in the underlined part of the following statements (1)

- i) A ball and socket joint is a joint that allows movement in all directions.
- ii) Hinge joint helps in rotational movement around the axis.

iii) The elbow and knee joints are examples of gliding joints.

iv) An example of a pivot joint is the joint where the cranium joins to the first vertebra of the vertebral column

**II Answer any 6 questions from 7 to 13. 2 scores each. (6X2=12)**

7. Analyse the statements and answer the questions.

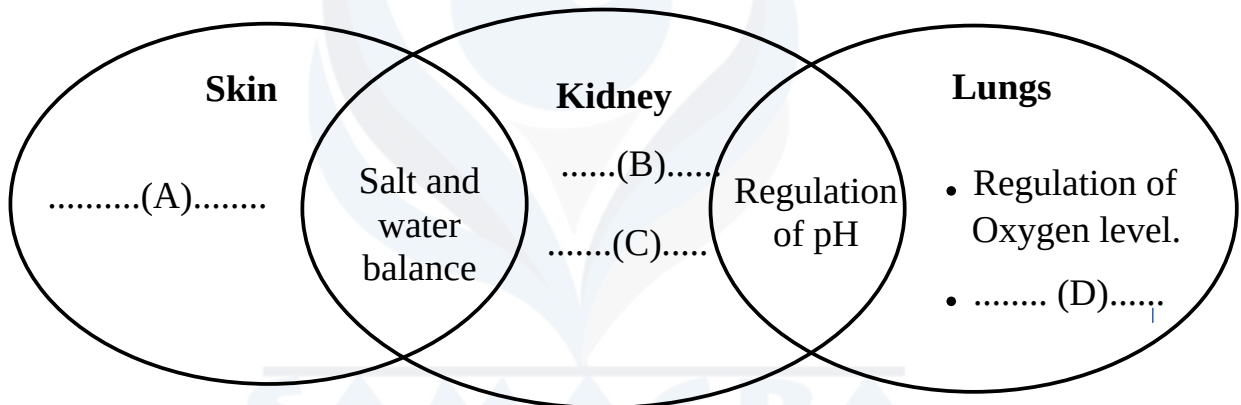
A) When touched a Touch-me-not plant, its leaves curl up.

B) The roots of Touch-me-not plant grow towards the water.

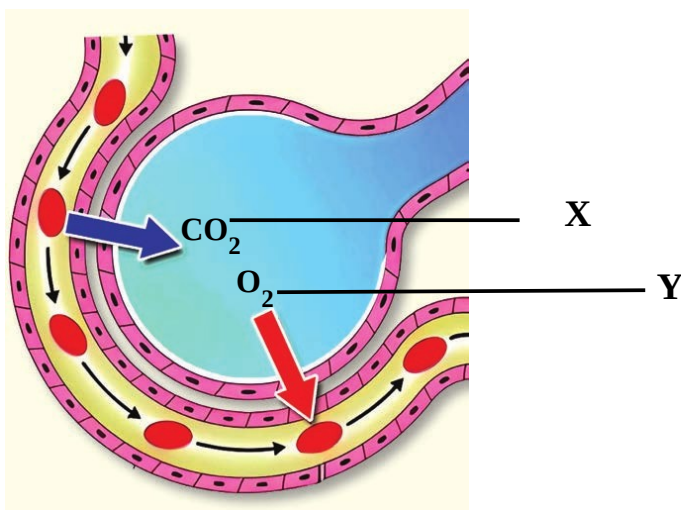
i) Write the names of the movements indicated as A and B. (1)

ii) How do these movements differ? (1)

8. Complete the following Venn diagram suitably with respect to homeostasis. (2)



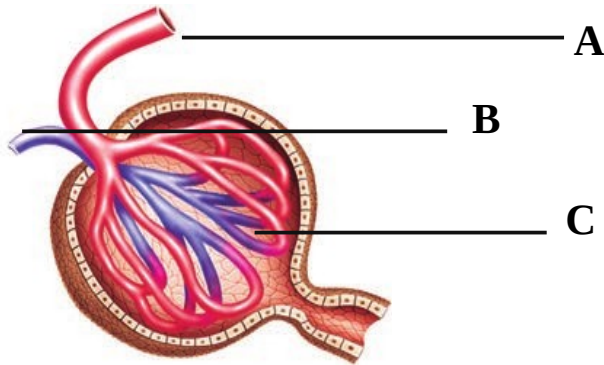
9. Observe the illustration and answer the questions given below.



i) Name of the process of gas exchange shown in the illustration (1)

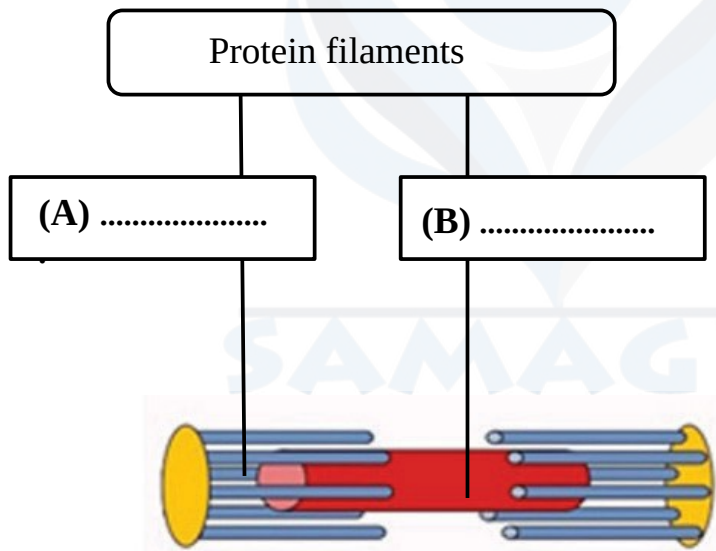
ii) How are the concentrations of oxygen and carbon dioxide differ in 'X' and 'Y'? (1)

10. Observe the illustration and answer the questions given below.



- i) What is the process that takes place in part C and what fluid is formed (1)
- ii) How does the difference in diameter of blood vessels A and B help this process? (1)

11. Observe the illustration and answer the questions given below.



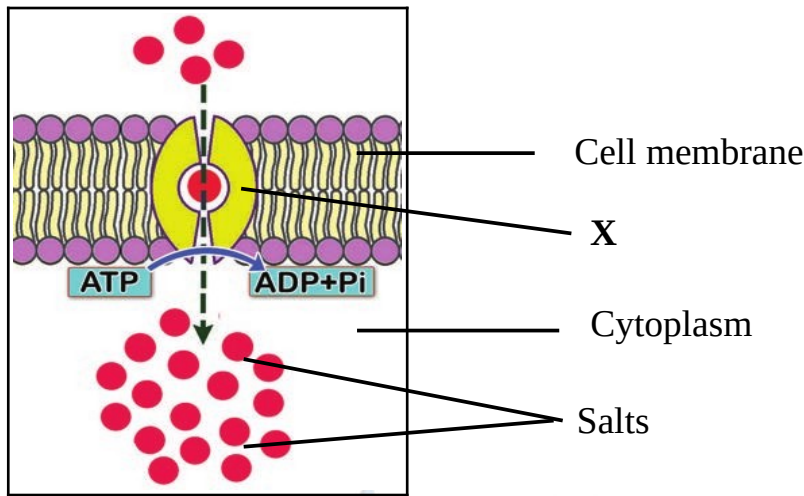
- i) Fill in A and B. (1)
- ii) How does the action of A and B help to make body parts move? (1)

12. Water, salts and solid wastes are excreted in plants through hydathodes. - Evaluate this statement. (2)

13. How does exercise affect the function of the following organs?
- i) Heart and blood vessels (1)
  - ii) Lungs (1)

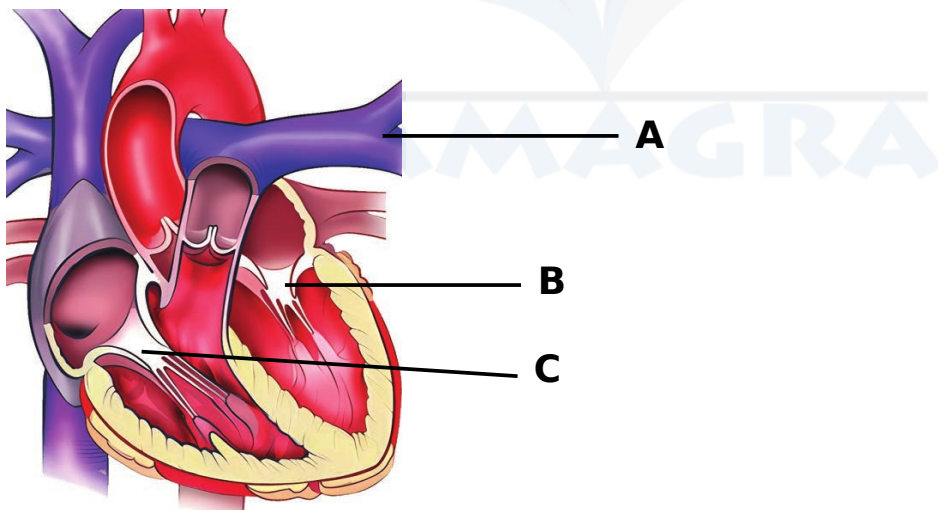
**III Answer any 5 questions from 14 to 20. 3 score each. (5X3=15)**

14. Observe the illustration and answer the questions given below.



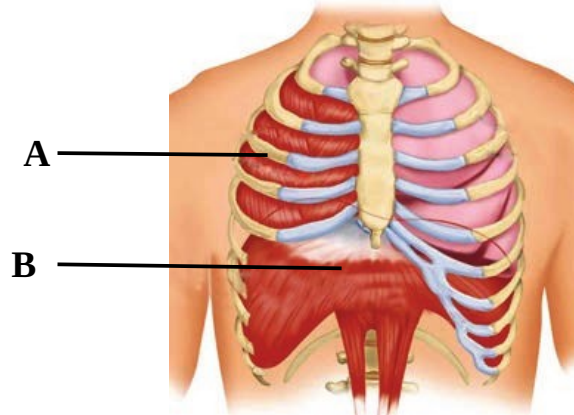
- i) Which molecule is marked as 'X' in the illustration? (1/2)
- ii) Name the process of transport of substances shown in the illustration? (1/2)
- iii) How does this process differ from facilitated diffusion? (2)

15. Observe the diagram showing the structure of the heart and answer the questions



- i) Identify and name the valves 'B' and 'C'. (1)
- ii) Write the name and function of blood vessel 'A'. (1)
- iii) Name the blood vessel which carries blood from the lungs to the heart? To which chamber of the heart does this carry the blood? (1)

16. Observe the illustration and answer the questions



- i) Identify 'A' and 'B' (1)
- ii) How does the action of A and B differ in the processes of inhalation and exhalation (1)
- iii) How does the action of A and B change the pressure of air in the lungs? (1)

17. Complete the table. (3)

Indicators	Aerobic respiration	Anaerobic respiration
Number of ATP molecules		
Substances that participate in chemical reactions		
Products		

18. Analyse the description given in the box and answer the questions

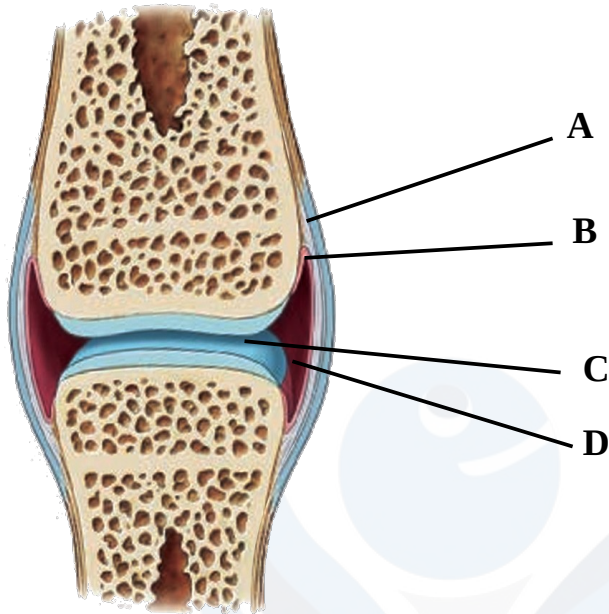
Bones provide structure, support and protection to the body. Each bone is covered by a membrane called .....(A)..... Bone growth and repair are carried out by .....(B)..... cells. .... (C).....and .....(D)..... are the minerals that give hardness and strength to bones.



i) Complete A,B,C,D suitably. (2)

ii) Write another function of B. (1)

19. Illustration of a joint is given below. Observe it and answer the questions.



i) Name the parts labelled as 'A' and 'C'. (1)

ii) Write the function of parts labelled as 'B' and 'D'. (2)

20. Arrange columns B and C suitably in accordance with column A (3)

A	B	C
Endoskeleton	Production of Hormone	Earthworm
Hydroskeleton	Calcium carbonate, Chitin are major components	Crabs, Mussels
Exoskeleton	Includes cartilages and bones	Plants
	Fluid filled chambers	Human

**IV Answer any 2 questions from 21 to 23. 4 score each.** (2X4=8)

21. Complete the following table suitably with respect to various bone and muscular disorders (4)

Disorder	Symptoms	Causes
.....(i).....	Pores form in the bones	.....(ii).....
Sprain	.....(iii).....	.....(iv).....
.....(v).....	.....(vi).....	The immune system destroys the synovial membrane
.....(vii).....	Condition in which muscles become weak	.....(viii).....

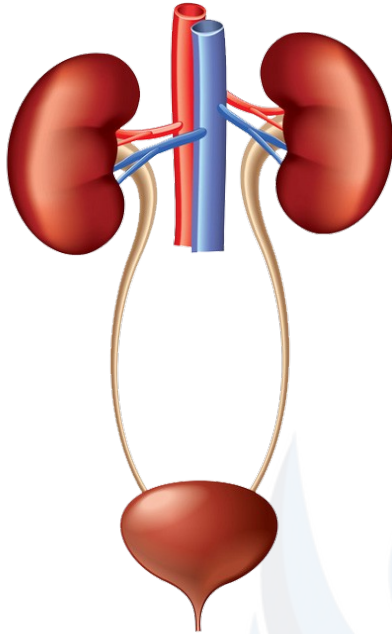
22. Provide appropriate headings and tabulate the information given in the box suitably (4)

- |   |
|---|
| <ul style="list-style-type: none"> <li>• 28 ATP molecules are formed.</li> <li>• Pyruvic acid is formed.</li> <li>• Takes place in mitochondria</li> <li>• Oxygen is not required</li> <li>• 2ATP molecules are formed.</li> <li>• Break down of Pyruvic acid.</li> </ul> |
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23. Observe the figure and answer the following questions



- i) Redraw the figure. (1)
- ii) Name and label the parts given below
  - a) The tube that carries urine to the urinary bladder (1)
  - b) Blood vessel that carries blood to Kidneys (1)
- iii) Why is it necessary to take certain medicines after kidney transplant surgery? (1)

**XXXXXXXXXXXXXX**

### Answer key Biology

Qn No	Sub Qn	Answer/Valuation Points	Marks	Total
1		a) 12 -16 gm/dL	1	1
2		iv) a, b , d correct . c wrong	1	1
3		X - Lacteal	1	1
4		Amoeba - Pseudopodia	1	1
5		i) Jaundice ii) Urinary tract infection	1	1
6		ii) Pivot Joint iii) Hinge Joint	1	1
7	i)	A - Nastic Movement , B-Tropic movement (Hydrotropic movement)	1	2
	ii)	Movement of leaves in Touch me not plant is not related to the direction of stimulus. But the movement of its roots is related to the direction of stimulus	1	
8		A) - Regulation of temperature , B- Regulation of blood pressure , C- Expels waste , D- Elimination of CO <sub>2</sub>	2	2
9	i)	Alveolar gas exchange	1	2
	ii)	In 'X' concentration of O <sub>2</sub> is high but CO <sub>2</sub> concentration is low. In 'Y' CO <sub>2</sub> concentration is high while concentration of O <sub>2</sub> is low.	1	
10	i)	Ultrafiltration , Glomerular filtrate	1	2
	ii)	Due to the difference in the diameter of 'A' and 'B' , a high pressure is developed in the glomerulus , which helps in this process	1	
11	i)	A - Actin , B - Myosin	1	2

	ii)	By the action of these filaments, muscles contract and relax. This enables the body movements.	1							
12		Water and salts are excreted through Hydathodes , while solid wastes are excreted as Resins, bark, dropping of mature leaves and fruits, formation of heart wood	2	2						
13	i)	Efficiency of heart muscles increases; Blood vessels dilate . Blood flow increases.	1	2						
	ii)	Vital capacity increases, gaseous exchange becomes efficient	1							
14	i)	Carrier Protein	1/2	3						
	ii)	Active transport	1/2							
	iii)	In facilitated diffusion, molecules move from higher concentration to lower concentration. But in active transport, molecules move from lower concentration to higher concentration. Energy is not required for facilitated diffusion. But active transport requires energy.	2							
15	i)	B- Bicuspid Valve , C- Tricuspid Valve	1	3						
	ii)	A- Pulmonary Artery, Carries blood from right ventricle to Lungs	1							
	iii)	Pulmonary Vein , into left Atrium	1							
16	i)	A- Intercostal muscles , B- Diaphragm	1	3						
	ii)	A, B contracts during inspiration, returns to the original condition during expiration	1							
	iii)	When A and B contracts, pressure of air in lungs decreases. When A and B returns to the original condition , pressure of air in lungs increases.	1							
17		<table border="1"> <thead> <tr> <th>Indicators</th> <th>Aerobic Respiration</th> <th>Anaerobic Respiration</th> </tr> </thead> <tbody> <tr> <td>No of ATP molecules</td> <td>28 molecules</td> <td>2 molecules</td> </tr> </tbody> </table>	Indicators	Aerobic Respiration	Anaerobic Respiration	No of ATP molecules	28 molecules	2 molecules	3	3
Indicators	Aerobic Respiration	Anaerobic Respiration								
No of ATP molecules	28 molecules	2 molecules								

		Substances that take part in the chemical process	Glucose, Oxygen	Glucose		
		Products	CO <sub>2</sub> , Water	Lactic acid/ Alcohol, CO <sub>2</sub>		
18	i)	A- Periostium , B-Osteoblast cells .C- Calcium , D- Phosphate			2	3
	ii)	deposit minerals in the bones, make them strong and firm			1	
19	i)	A- Ligament, C- Cartilage			1	3
	ii)	B- helps in the smooth movement of bones D- reduces friction between the bones			2	
20		<b>A</b>	<b>B</b>	<b>C</b>	3	3
		Endoskeleton	Includes bones and cartilages	Human beings		
		Hydroskeleton	Fluid filled body cavities	Earthworm		
		Exoskeleton	Calcium carbonate and Chitin are major components	Crab, Mussels		
21		i) Osteoporosis, ii) deficiency of Protein, Calcium and Vitamin D iii) Pain, swelling, bruises, difficulty in moving the joints, iv) the stretching or breaking of ligaments v) Rheumatoid arthritis vi) severe pain and swelling in the joints vii) Muscular dystrophy , viii) change that occurs in the genes			4	4
22		Glycolysis		Krebs Cycle	4	4
		28ATP Molecules are formed		Takes place in Mitochondria		
		Pyruvic acid is formed		2ATP molecules are formed		
		Oxygen is not required		Break down of Pyruvic acid		
23	i)	Redrawing the figure			1	4
	ii)	To label a) Ureter b) Renal artery			2	
	iii)	To suppress immunity			1	