

ANNUAL EXAMINATION 2024 - 25**PRACTICE QUESTION PAPER****BIOLOGY****STD IX****Time : 1½ hours****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. Analyse the hints and select the correct answer.

(1)**Hints :**

- A. The folding of the touch-me-not plant's leaves when touched is known as a nastic movement.
 - B. Movements of plant parts according to the direction of stimulus are tropic movements.
 - C. Growing of climbers towards and around a support is example for Haptotropism.
- i) Only A is correct.
 - ii) A is correct , B and C are incorrect
 - iii) A, B & C are correct
 - iv) A is incorrect , B and C are correct

2. Which of the following cannot be detected by ultrasound scanning.

(1)

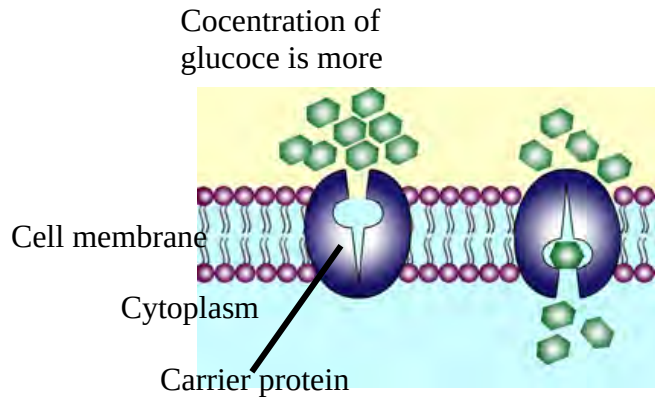
- i) Position of placenta
- ii) Gestational Diabetes
- iii) Genetic abnormalities
- iv) Growth of the foetus

3. Identify the one that is correctly arranged in the following table and write it down

(1)

	A (Phylum)	B (Peculiarity)	C (Example)
i)	Annelida	Small, soft and flat bodied worms	Crab
ii)	Mollusca	Segmented bodied organisms	Sea Urchin
iii)	Platyhelminthes	Soft body, in most organisms a shell made of calcium carbonate covers the body	Planaria
iv)	Nematoda	Long and round bodied worms	Hook worm

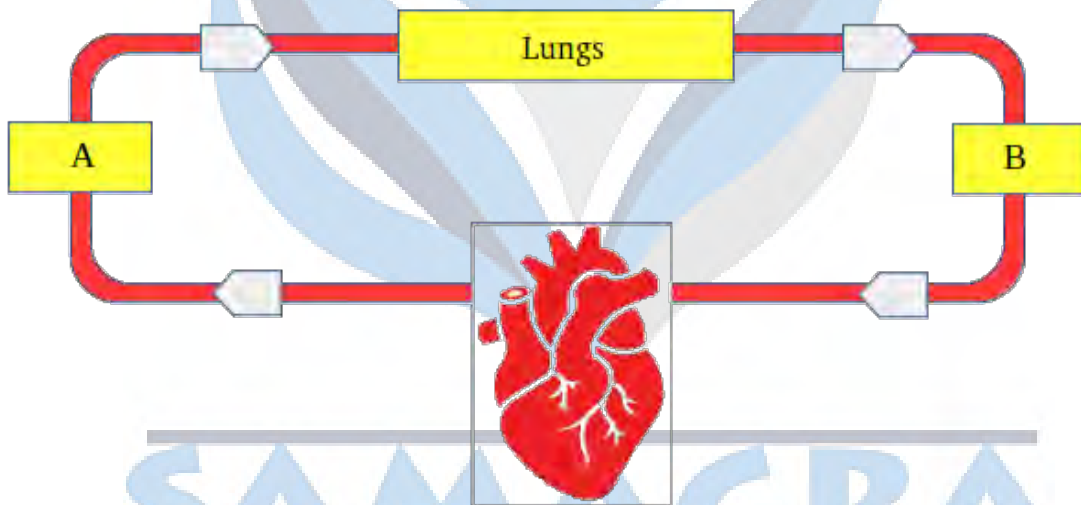
4. Name the process related to the movement of substances illustrated below. (1)



5. Which blood vessel carries blood out of the glomerulus? (1)

- Afferent vessel
- Renal artery
- Renal vein
- Efferent Vessel

6. Identify the blood vessels A and B and choose the correct answer from the options given below.

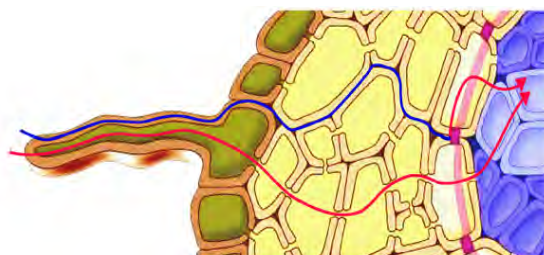


- i) A – Pulmonary artery , B – pulmonary vein
- ii) A – Pulmonary artery , B – superior venacava
- iii) A – Inferior venacava , B – Aorta
- iv) A – Aorta , B – pulmonary vein

II. Answer any 6 questions from 7 to 13. 2 scores each.

(6X2=12)

7. Observe the illustration and answer the questions. (2)



- (i) Identify the illustration. (1)
- (ii) Explain any one of the processes shown in the illustration. (1)
8. Explain the role of the following factors in the health of the skeletal system. (1)
- (i) Vitamin D (1)
- (ii) Calcium (1)
9. Write the significance of DNA bar coding in classifying organisms. (2)
10. A few contraceptive methods are given. How do they interrupt the process of conception.(2)
- (i) Vasectomy
- (ii) Diaphragm
11. Different animals and the phyla to which they belong are given below. Make them pairs as shown in the model. (2)

Planaria , Sponges, Hydra,
cockroach , Round worm

Coelenterata, Arthropoda,
Echinodermata,
Platyhelminthes, Porifera,
Nematoda, Echinodermata

Model

Cockroach : Arthropoda

12. Complete the table below suitably, including the items given in the box. (2)

- Spindle shaped
- Rod shaped
- Striations present
- Seen in stomach

Voluntary muscle	Involuntary muscle
•	•
•	•

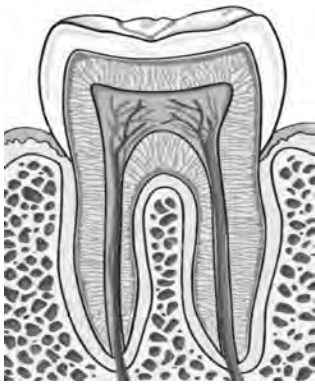
13. If the causes of infertility are identified, they can often be resolved with treatment. Evaluate this statement and prepare a note about the causes of infertility in men and women. (2)

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

14. Redraw the given diagram and label the following parts.

To redraw

(1)



i) Part where odontoblast cells are seen

(1)

ii) Connective tissue that holds the tooth in the gum

(1)

15. Analyse A, B and C and complete the following table.

(3)



	Phylum	Peculiarity
A		
B		
C		

16. Observe the diagram of the cell organelle and answer the following questions.



i) Write the name of the phase of cellular respiration that takes place in this organelle.

(½)

ii) What is the main process that takes place at this phase?

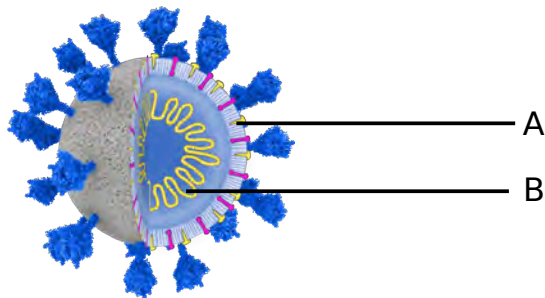
(1)

iii) Complete the following illustration representing cellular respiration

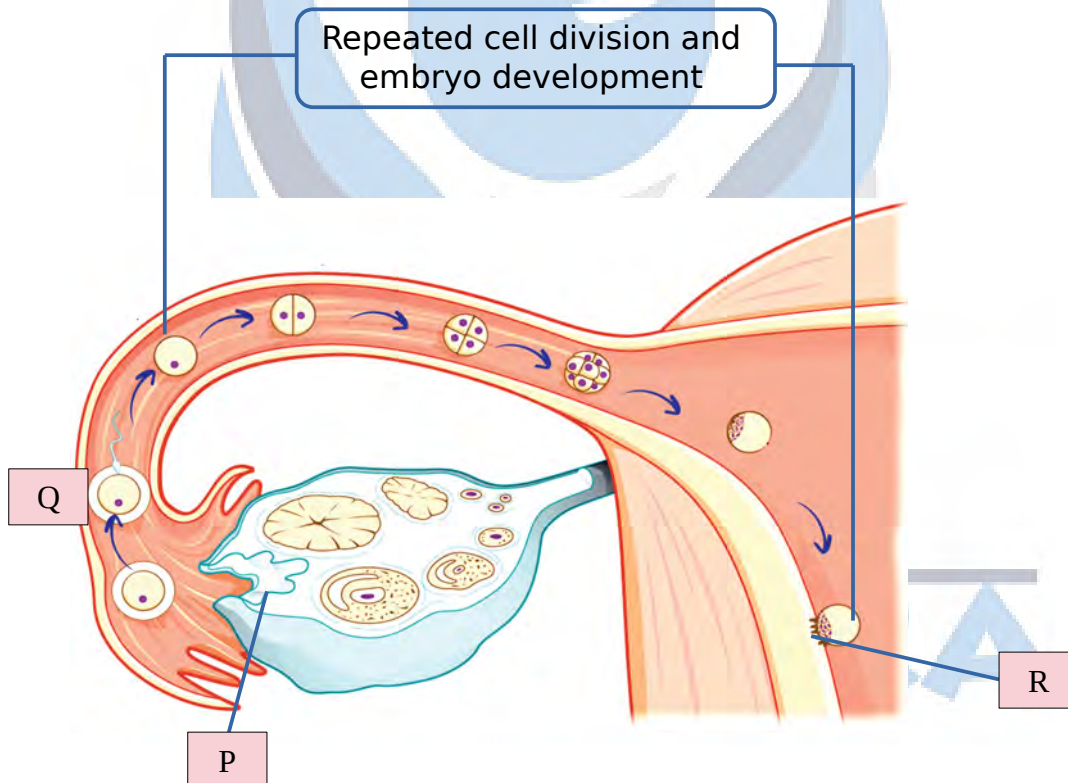
(1½)

Glucose +A..... $\xrightarrow{\text{Enzymes}}$ B..... + Water +C.....

17. Diagram showing the structure of a virus is given below. Analyse it and answer the following questions.



- i) Write the name of the part labelled as A and B (1)
 - ii) Why are viruses not included in any of the six kingdom classifications? (2)
18. P , Q , R represents various processes that take place during reproduction in humans. Write down the name of the processes and explain each process briefly. (3)



19. The following sentences are from the poster that explain the importance of breast milk. Prepare a note on the importance of breast milk by relating the sentences from the poster? (3)
- "Breast milk - the first vaccine a baby receives"
 - "Breast milk - the foundation of a baby's growth and development"
 - "The right of a baby, the duty of a mother"
20. The different stages of progressive development of a foetus is given below. Arrange them suitably and complete the table. (3)
- Growth of hair on the head and the body
 - The heart beat begins

- Lungs attain complete growth
- Eyelids open, eyelashes are formed
- Sex organs and organ systems are formed
- Gaining of body weight

First trimester 1 - 3 months	Second trimester 4 - 6 months	Third trimester 7 - 9 months

IV. Answer any 2 questions from 21 to 23. 4 score each.

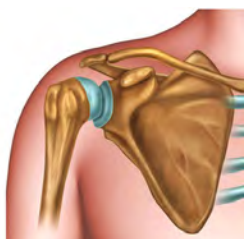
(2X4=8)

21. Complete the table suitably.

(4)

Divisions	Mode of reproduction	Presence of vascular tissues	Examples of plants
Algae	Both sexual and asexual reproduction	.....A.....	.....B.....
Bryophyta	.....C.....	Vascular tissues are absent	.....D.....
Pteridophyta	.....E.....	Vascular tissues with simple structure are seen	Lycopodium
Gymnosperms	Reproductive structures known as cones are present	.....F.....	.....G.....
Angiosperms	.....H.....	Complex vascular tissues are seen. Xylem vessels and tracheids are present	Hibiscus

22. Observe the figures of the joints given and answer the questions.

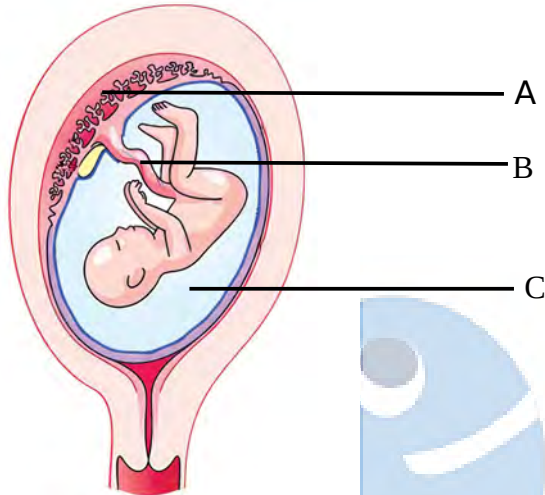


A.



B.

- i) Name the type of joints 'A' and 'B'. (1)
 - ii) How do A and B differ in their movements? (1)
 - iii) Name the disease that causes severe pain and swelling in the joints. How is it caused? (2)
23. Observe the following illustration and answer the questions.



- i) What is the part marked 'A'? How is this part formed? (1)
- ii) Write the name and functions of B and C. (2)
- iii) How do alcohol consumption, drug abuse and smoking during pregnancy affect the health of the foetus? (1)



Answer key Biology

Qn No	Sub Qn	Answer/Valuation Points	Score	Total
1		iii) A, B, C are correct	1	1
2		ii) Gestational Diabetes	1	1
3		iv) Nematoda - Long and round bodied worms - Hook worm	1	1
4		Facilitated diffusion	1	1
5		Efferent vessel	1	1
6		i) A - Pulmonary artery , B - pulmonary vein	$\frac{1}{2} + \frac{1}{2}$	1
7		<p>(i) In plants, substances enter the cytoplasm from the external environment.</p> <p>(ii)</p> <ul style="list-style-type: none"> Through the cell wall and through extracellular spaces. Through cytoplasmic connections called plasmodesmata that connect adjacent cells From one cell to another through plasma membrane (any one point) 	2	2
8		<p>(i) Vitamin D is necessary for the absorption of calcium which ensure the hardness and strength of bones.</p> <p>(ii) Calcium which ensure the hardness and strength of bones.</p>	1 1	2
9		DNA bar coding is the technology of classifying organisms by comparing the special molecular sequences (codes) of DNA. Unlike the traditional methods, it helps to recognize the species at molecular level. This is made possible by the creation and sharing of DNA barcodes by the researchers and laboratories all over the world.	2	2
10		<p>Vasectomy - By cutting or tying the vas deferens, the passage of the sperm is blocked</p> <p>Diaphragm - Prevents sperm from reaching the uterus</p>	1 1	2
11.		Planaria - Platyhelminthes	$\frac{1}{2} \times 4$	2

		Sponges - Porifera Hydra - Coelenterata Round worm - Nematoda				
12		A. Voluntary muscle	B. Involuntary muscle	½ x 4	2	
		<ul style="list-style-type: none">• Rod shaped• Striations present	<ul style="list-style-type: none">• Spindle shaped• Seen in stomach			
13		a) In men Defects in sperm production, decrease in the number of sperms and their motility and certain diseases. (any two points)		1	2	
		b) In women Ovulation disorders, blockage in the fallopian tube and hormonal imbalances such as Polycystic Ovary Syndrome (PCOS) (any two points)		1		
14	i)	To redraw the diagram		1	3	
		Pulp cavity		1		
		Cementum		1		
15			Phylum	Peculiarity	½ x 6	3
		A	Annelida	Segmented-bodied organisms		
		B	Echinodermata	Marine organisms with spiny body		
		C	Mollusca	Soft body, in most organisms a shell made of calcium carbonate covers the body		
16	i)	Krebs cycle		½	3	
	ii)	Pyruvic acid is converted into carbon dioxide and water.		1		
	iii)	A- Oxygen B- Carbon dioxide C- 30 ATP		1½		
17	i)	A- Capsid		½	3	
		B- Genetic material		½		

	ii)	Organisms having the ability to reproduce, respond to the environment, to grow, and do metabolic activities are included in the process of classification. Viruses cannot multiply without the help of a host cell. They are inactive outside any living cell. Due to these unique characteristics, they are not included in any category of the current six-kingdom classification	2	
18		<p>P - Ovulation- release of ovum from ovary</p> <p>Q - Fertilisation – process of fusion between sperm and ovum in the oviduct which result the formation of zygote</p> <p>R - Implantation- Attachment of blastocyst to the uterine layer called endometrium</p>	1 1 1	3
19		<p>Colostrum, a light yellow coloured milk produced immediately after giving birth, must be compulsorily fed to the baby. This will give the baby lifelong immunity.</p> <p>A baby should be breastfed for at least two years. Breast milk provides the nutrients needed for growth and cognitive development .</p> <p>Breast milk contains antibodies that protect the baby against infection, diarrhoea, respiratory diseases and allergies. Breast milk helps to maintain body temperature and to prevent dehydration.</p> <p>(Any three relevant concepts)</p>	1 1 1	3
20		<p>First Trimester (1 - 3 months)</p> <ul style="list-style-type: none"> • The heart beat begins. • Sex organs and organ systems are formed 	1	3
		<p>Second trimester (4 - 6 months)</p> <ul style="list-style-type: none"> • Growth of hair on the head and the body. • Eyelids open, eyelashes are formed രൂപപ്പെടുന്നു 	1	
		<p>Third trimester (7 - 9 months)</p> <ul style="list-style-type: none"> • Lungs attain complete growth • Gaining of body weight 	1	
21		<p>A - Vascular tissues are absent</p> <p>B – Spirogyra, Sargassum</p> <p>C- Reproduction is done through gametes and spores</p>	$\frac{1}{2} \times 8$	4

		<p>D- Riccia, Funaria</p> <p>E- Reproduction is mainly through spores</p> <p>F- Complex vascular tissues are seen, but xylem vessels are absent</p> <p>G - Cycas, Pine</p> <p>H- Reproductive parts are present in the flowers</p>		
22	i)	<p>A . Ball and socket joint</p> <p>B . Hinge joint</p>	1	4
	ii)	<p>A - Allows movement in all sides</p> <p>B - Allows movement in only one side</p>	1	
	iii)	<p>Rheumatoid arthritis.</p> <p>Due to the destruction of cartilages and synovial membrane by the immune system</p>	2	
23	i)	A Placenta- formed by embryonic and uterine tissues	1	4
	ii)	<p>B - Umbilical cord</p> <p>Function : Oxygen and nutrients reach the body of the foetus and wastes are removed through this cord</p> <p>C - Amniotic fluid</p> <p>Function : Prevents dehydration of the foetus and protects it from external shock</p>	2	
		Smoking, alcoholism and drug abuse during pregnancy can cause developmental disorders in the foetus, ectopic pregnancy and miscarriage	1	