

ST. FRANCIS XAVIER SCHOOL
SESSION 2022-2023
PRACTICE PAPER
ENGLISH
CLASS: X S

TIME: 1 HOUR

FULL MARKS: 40

Answer to this paper must be written in the test copy.

Question 1

Select any one of the following: [10]

- (a) There is a garage cum car repairing centre close to your house. Every day you are suffocated by the poisonous gases emitted from those cars at that centre. Write a letter to the local councillor complaining about it and offering probable solutions.
- (b) A friend of yours has written to you about the fact that he / she has recently joined a yoga centre. You write to him / her a few weeks later in order to get information about that centre—how the centre helps students to concentrate in studies as well as pursue one's hobbies. You can also ask your friend how he / she is benefitting from that yoga centre.

Question 2

- (a) Your school is hosting an inter-school competition for writing short stories. As the event in-charge, draft a notice for your school informing students about the event and inviting them to participate in it.
- (b) Write an e-mail to the Principal of a neighbouring school requesting him / her to allow the students of his / her school to send short stories for the appropriate age group for participation. [5+5]

Question 3

Read the following passage carefully and answer the questions that follow:

I first met Private Quelch at the training depot. A man is liable to acquire in his first week of Army life --- together with his uniform, rifle and equipment--- a nickname. Anyone who saw Private Quelch, lanky, stooping, frowning through horn-rimmed spectacles, understood why he was known as the Professor. Those who had any doubts on the subject lost them after five minutes' conversation with him.

I remember the first lesson we had in musketry. We stood in an attentive circle while a sergeant, a man as dark and sun-dried as raisins, wearing North-West ribbons, describe the mechanism of a Service rifle.

"The muzzle velocity or speed at which the bullet leaves the rifle," he told us, "is well over two thousand feet per second." A voice interrupted. "Two thousand four hundred and 10 forty feet per second." It was the Professor.

"That's right," the sergeant said without enthusiasm, and went on lecturing. When he had finished, he put questions to us; and, perhaps in the hope of revenge, he turned with his questions again and again to the Professor. The only result was to enhance the Professor's glory. Technical definitions, the parts of the rifle, its use and care, he had them all by heart. The sergeant asked, "You had any training before?"

The Professor answered with a phrase that was to become familiar to all of us. "No, Sergeant. It's all a matter of intelligent reading."

That was our introduction to him. We soon learned more about him. He saw to that. He meant to get on, he told us. He had brains. He was sure to get a commission, before long. 20 As a first step, he meant to get a stripe.

In pursuit of his ambition, he worked hard. We had to give him credit for that. He borrowed training manuals and stayed up late at nights reading them. He badgered the instructors with questions. He drilled with enthusiasm, and on route marches he was not only miraculously tireless but infuriated us all with his horrible heartiness. "What about a song, chaps?" is not greeted politely at the end of thirty miles. His salute at the pay table was a model to behold. When officers were in sight, he would swing his skinny arms and march to the canteen like a Guardsman.

And day in and day out, he lectured to us in his droning, remorseless voice on every aspect of human knowledge. At first, we had a certain respect for him, but soon we lived in terror of 30 his approach. We tried to hit back at him with clumsy sarcasms and practical jokes. The Professor scarcely noticed; he was too busy working for his stripe.

Each time one of us made a mistake the Professor would publicly correct him. Whenever one of us shone, the Professor outshone him. When, after a hard morning's work of cleaning out our hut, we listened in silence to the Orderly Officer's praise, the Professor would break out with a ringing, beautifully beaming, "Thank you, sir!" And how superior, how condescending he was! It was always "Let me show you, old fellow", or "No, you'll ruin your rifle that way, old man."

We used to pride ourselves on aircraft recognition. Once, out for a walk, we heard the drone of a plane flying high overhead. None of us could even see it in the glare of the sun. 40 Without even a glance upward the Professor announced, "That, of course, is a North American Harvard Trainer. It can be unmistakably identified by the harsh, engine note due to the high tip speed of the airscrew."

What could a gang of louts like us do with a man like that?

(a) Give the meaning of each of the following words as used in the passage. [3]

One-word answers or short phrases will be accepted.

(i) mechanism (line 8)

(ii) enhance (line 14)

(iii) commission (line 20)

(b) Answer the following questions briefly, in your own words.

(i) Give two reasons why Private Quelch was nicknamed 'the Professor'. [2]

(ii) What made the Sergeant question the Professor whether he had any formal training? [2]

(iii) Quote the sentence that tells us about the Professor's confidence in his knowledge. [1]

(iv) Give two instances of the Professor's hard work to get a rank for himself in the Army. [2]

[2]

(v) Which two incidents in the passage show that the Professor behaved very formally in the presence of his superiors?

[2]

(c) In not more than 50 words give an account of how the Professor made several attempts to show off his knowledge on any subject. [8]

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MATHEMATICS
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1. A machine was available for ₹ 36842.40, which included three successive discounts of 20%, 15% and 10% on the list price and a GST of 12% on the remaining price. Find the list price of the machine.
2. Kavita has a cumulative time deposit account in a bank. She deposits ₹ 800 per month and gets ₹ 16700 as maturity value. If the rate of interest be 5% per annum, find the total time for which the account was held.
3. A box containing 8 red, 4 white and 3 black balls. One ball is drawn at random. What is the probability that the ball drawn is
(i) White (ii) Red or White (iii) neither red nor white (iv) not red
4. Solve $x^2 - 6x - 15 = 0$. Give your answer correct to two decimal places.
5. The distance by road between two towns A and B. The distance by road between towns A and B is 216 km and by rail it is 208 km. A car travels at a speed of x km/hr and the train travels at a speed which is 16 km/hr faster than the car.
(i) Write down the time taken by the car to reach town B from A, in terms of x .
(ii) Write down the time taken by the train to reach town B from A, in terms of x .
(iii) If the train takes 2 hours less than the car to reach town B, obtain an equation in x and solve it.
(iv) Hence, find the speed of the train.
6. If $(c^2 - ab)x^2 - 2(a^2 - bc)x + (b^2 - ac) = 0$ show that either $a = 0$ or $a^3 + b^3 + c^3 = 3abc$
7. Find the equation of the perpendicular dropped from the point $(-1, 2)$ onto the line joining the point $(-1, 2)$ onto the line joining the points $(1, 4)$ and $(2, 3)$.
8. Let $A = \{x \in R : 11x - 5 > 7x + 3\}$ and $B = \{x \in R : 8x - 9 \geq 15 + 2x\}$. Find $A \cap B$ and represent the solution set on a number line.
9. If $x^3 + ax^2 + bx + 6$ has $x - 2$ as a factor and leaves a remainder 3 when divided by $x - 3$. Find the values of a and b .
10. If $A = \begin{bmatrix} 3 & 1 \\ -1 & 2 \end{bmatrix}$ show that $A^2 - 5A + 7I = 0$

- ii. Give a chemical test to distinguish between the following: [2]
a. Zinc hydroxide and Lead hydroxide using liquor Ammonia.
b. Zinc oxide and Zinc using an alkali.
- iii. Describe in outline the chemistry of manufacture of Sulphuric acid from Sulphur. [5]
Name the process. (only equations with conditions for each stage)

ST. FRANCIS XAVIER SCHOOL
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BIOLOGY
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Question 1

Name the following by choosing the correct options-

[5]

- a) The maximum pressure during the cardiac cycle
 - 1. Diastolic pressure.
 - 2. Systolic pressure.
 - 3. Pulse pressure.00
 - 4. Mean pressure.

- b) The tissue through which ascent of sap take place.
 - 1. Phloem.
 - 2. Xylem.
 - 3. Cortex.
 - 4. Cambium.

- c) The force generated by the process of transpiration
 - 1. Imbibition.
 - 2. Capillary.
 - 3. Suction force.
 - 4. Atmospheric pressure.

- d) The first stable product of photosynthesis formed
 - 1. PG ald.
 - 2. RUBP.
 - 3. OAA.
 - 4. PGA.

- e) The act of passing urine.
 - 1. Micturition.
 - 2. Osmoregulation.
 - 3. Excretion.
 - 4. Dialysis.

Question-2.

Complete the following statements, by choosing the appropriate options for each of the blanks-

[5]

- a) The whole process of filtration that takes place under pressure and results infiltration of only small sized molecules is called _____
1. Vasodilation.
 2. Reabsorptions.
 3. Vasoconstriction.
 4. Ultrafiltration.
- b) The blood returns to the posterior venacava from the liver through the _____
1. Hepatic portal vein.
 2. Hepatic vein.
 3. Hepatic artery.
 4. Renal vein.
- c) The part of the interphase where duplication of DNA molecules take place is known as _____
1. Second growth phase.
 2. Synthesis phase.
 3. First growth phase.
 4. Lagging phase.
- d) Dipping the leaf in boiling water during starch test kills the cell as it _____
1. Destroys the enzyme in the protoplasm.
 2. Does not prevent any chemical changes in the leaf.
 3. Does not make the cell more permeable to iodine solution.
 4. Removes the chlorophyll from the leaf.
- e) One of the internal factors which affect the rate of stomatal transpiration is _____
1. Change in turgor pressure.
 2. Change in humidity of the air.
 3. Change in wind velocity.
 4. Change in weather condition.

Question 3.

Choose the correct answer from each of the four options given below- [5]

- a) Transpiration pull will be maximum under which of the following conditions?
1. Open stomata, dry atmosphere, moist soil.
 2. Open stomata, high humidity, well irrigated soil.
 3. Open stomata, high humidity, dry soil.
 4. Close stomata, dry atmosphere, dry soil.
- b) The glomerular filtrate does not contain
1. Mineral salts.
 2. Protein macromolecules.
 3. Coronary artery.
 4. Pulmonary artery.

- c) The artery that supplies blood to the heart muscles
 1. Hepatic artery.
 2. Renal artery.
 3. Coronary artery.
 4. Pulmonary artery.

- d) A membrane which permits selective movement of molecules through it
 1. Permeable membrane.
 2. Unit membrane.
 3. Impermeable membrane.
 4. Semipermeable membrane.

- e) The pairing of the homologous chromosome during prophase 1 of meiosis
 1. Synapsis.
 2. Crossing over.
 3. Synapse.
 4. Accommodation.

Question 4.

Explain the following terms-

[5]

- a) Diffusion.
 1. Movement of solvent molecules from lower to higher concentration gradient.
 2. Movement of molecules from higher to lower concentration, across a semipermeable membrane.
 3. Movement of only solute molecules using energy.
 4. Movement of net molecules from an area of their higher concentration to an area of their lower concentration.

- b) Photophosphorylation.
 1. The process by which energy rich phosphate compound ATP is formed from ADP, in the absence of sunlight.
 2. The process by which energy rich phosphate compound ATP is produced from ADP, in the presence of sunlight.
 3. The process of formation of glucose, in the dark phase of photosynthesis.
 4. The process of translocation of starch from the leaves to the storage organs.

- c) Phagocytosis
 1. The process by which WBC squeeze out through the leaked walls of the capillaries.
 2. The process by which blood is transferred from one person to another.
 3. The process by which various leucocytes like neutrophil and monocytes engulf foreign particles like bacteria.
 4. The process by which WBC are formed.

d) Hormones

1. A chemical messenger that are produced and secreted by exocrine gland in the body.
2. A chemical messenger that are produced by the heart to help in pumping of the blood.
3. A chemical messenger that are produced and secreted by endocrine glands and remains unchanged.
4. A chemical messenger that are produced and secreted by endocrine gland in the body, carried by blood, to a destined organ and is destroyed immediately.

e) Deplasmolysis

- 1) If a plasmolysed cell is placed in hypotonic or isotonic solution, endosmosis takes place and the cell resumes its original shape. This process is called deplasmolysis.
- 2) If a plasmolysed cell, is placed in hypertonic solution, exostosis takes place and resumes its original shape, this process is called deplasmolyzed.
- 3) If a normal cell is placed in isotonic solution, endosmosis takes place. This process is called deplasmolysis.
- 4) If a normal cell is placed in isotonic solution, endosmosis takes place. His process is called deplasmolysis.
- 5) If a normal cell is placed in a hypertonic solution, endosmosis takes place. This process is called deplasmolysis.

Question 5.

State the exact location of the following-

[5]

a) Stomata

1. On the epidermis of a leaf.
2. In the chloroplast.
3. On the surface of hard woody stem.
4. In the mesophyll tissues.

b) Centrosome with centrioles.

1. Inside the nucleus.
2. In the chloroplast.
3. In the cytoplasm near the nucleus.
4. On the plasma membrane.

c) Tricuspid valve.

1. In the aperture between the left auricle and left ventricle
2. At the base of the aorta.
3. At the base of the pulmonary trunk.
4. In the aperture near the right auricle and right ventricle.

d) Pancreas.

1. In the alimentary canal.
2. Above the stomach.
3. Beside the vertebral column.
4. Just behind and below the stomach, near the loop of the duodenum.

e) Pericardial fluid.

1. Surrounding the glomerulus
2. On the walls of the kidney.
3. Within the double walled rough covering of the heart.
4. Within the meninges of the brain.

Question 6.

State the function of the following-

[5]

a) Thrombocytes.

1. Helps in the transport of respiratory gases.
2. Helps in the transport of messages from one part of the body to another.
3. Helps to protect the body against infection.
4. Helps to prevent loss of blood by clotting.

b) Thyroxine

1. Increases the contractibility of skeletal muscles.
2. Decreases the concentration of blood sugar.
3. Regulates growth and basal metabolism of the body.
4. Regulates carbohydrates, fats and protein metabolism

c) Grana.

1. Site from where exchange of gases takes place.
2. Site of biosynthetic phase of photosynthesis.
3. Site of respiration for plants.
4. Site of photolysis of photosynthesis.

d) Pulmonary vein.

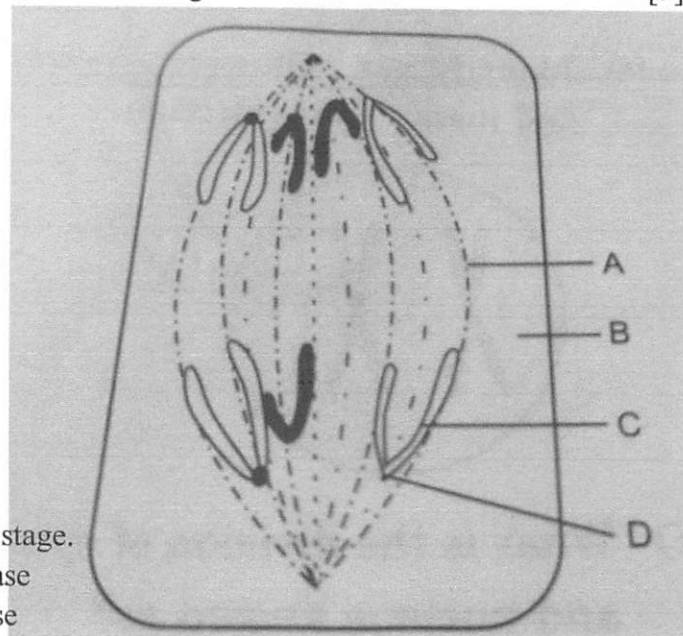
1. Carries oxygenated blood from the lungs to the left auricle of the heart.
2. Carries oxygenated blood from the left auricle of the heart to the lungs.
3. Carries deoxygenated blood from the different parts of the body to the right auricle of the heart.
4. Carries deoxygenated blood from the right auricle of the heart to the different parts of the body.

e) Urinary bladder.

1. Temporary storage of urine.
2. Transport urine from the kidney to the urethra.
3. Place where urine is formed.
4. Helps in expulsion of urine to the outside.

Question 7.

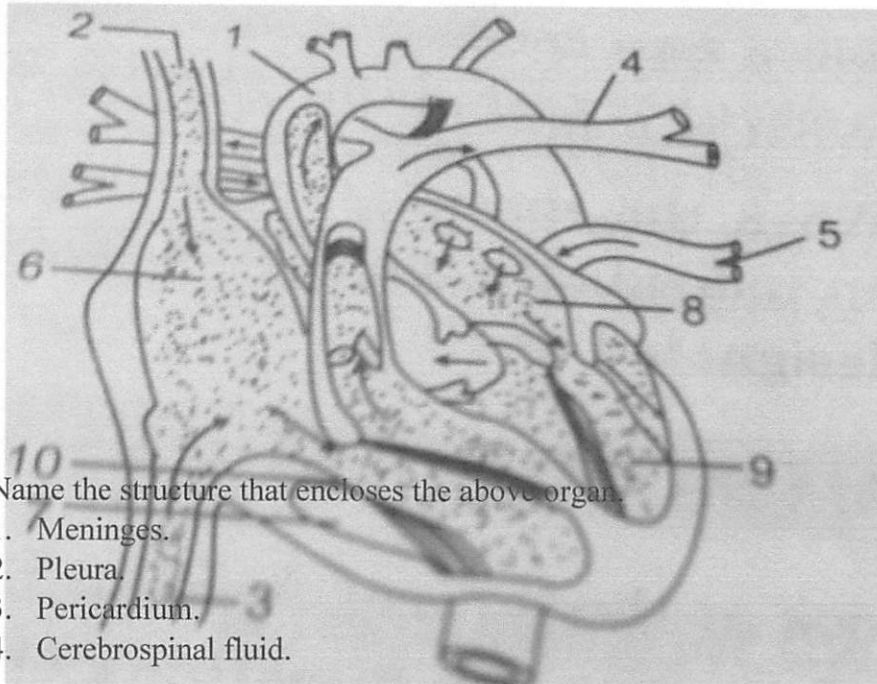
Given below is a diagram representing a stage during cell division. Study the same and answer the following- [5]



- a) Identify the stage.
1. Metaphase
 2. Anaphase
 3. Prophase
 4. Telophase.
- b) Name the part marked D.
1. Centrosome.
 2. Chromatid.
 3. Centromere.
 4. Centriole.
- c) What is the diploid number of chromosome seen in the diagram?
1. 6.
 2. 3.
 3. 4.
 4. 5.
- d) Mention one important feature of this stage.
1. Nucleolus reappears.
 2. Chromosomes align along the equator.
 3. Chromatids move towards the two poles.
 4. Nuclear membrane gets dissolved.
- e) Name the stage that follows after this stage.
1. Anaphase.
 2. Telophase.
 3. Metaphase.
 4. Prophase.

Question 8.

Study the diagram given below answer the following questions- [5]



- a) Name the structure that encloses the above organ.
1. Meninges.
 2. Pleura.
 3. Pericardium.
 4. Cerebrospinal fluid.
- b) Give the number where the pacemaker of the heart is situated.
1. 8.
 2. 9.
 3. 10.
 4. 6.
- c) Name the organ to which blood vessel 4 is supplying blood.
1. Lungs.
 2. Body tissue.
 3. Brain.
 4. Heart.
- d) Name the valve present between 8 and 9.
1. Bicuspid valve.
 2. Semilunar valve.
 3. Mitral valve.
 4. Tricuspid valve.
- e) Name the organ from which blood is brought by the vessel 2.
1. Lungs.
 2. Brain.
 3. Heart.
 4. Legs.