



# Royal College - Colombo 07

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Third Term Test - (January 2025)

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Time : 1 hour

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Grade } 11

Science

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34 E I

Name :- ..... Class: -..... Index No :- .....

## Paper I

- ❖ Answer all the questions.
- ❖ Read the instructions carefully and select the correct or most appropriate answer from 1 to 4. And mark X in front of the question number in the answer sheet provided.

(01) What is the chemical substance that is used in chemical co-ordination of human beings?

- 1) Hormones
- 2) blood plasma
- 3) grey matter
- 4) enzymes

(02) What is the unit of mole fraction of a substance?

- 1)  $\text{gmol}^{-1}$
- 2) no unit
- 3)  $\text{gdm}^{-3}$
- 4)  $\text{moldm}^{-3}$

(03) Select the type of bio-molecule where hydrogen and oxygen atoms combine with the ratio of 2:1

- 1) carbohydrate
- 2) lipid
- 3) protein
- 4) nucleic acid

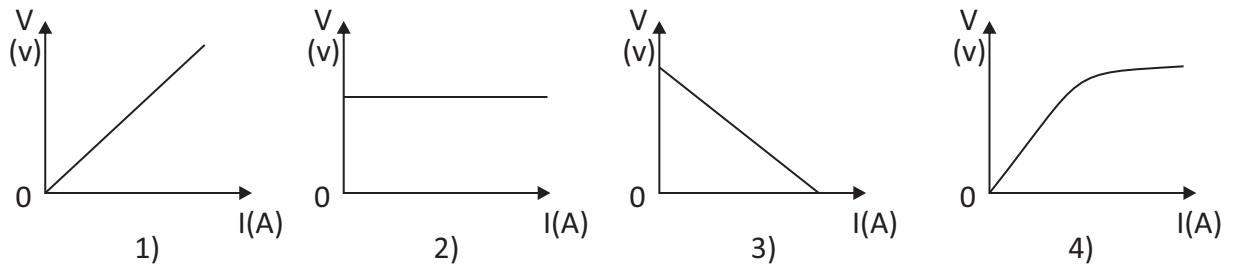
(04) Select the correct statement about the cardiac muscle tissue.

- 1) These cells are long and cylindrical shaped
- 2) They become fatigue easily.
- 3) They are voluntarily controlled.
- 4) Intercalated discs are present among cells.

(05) Of the following plant tissues which tissue pair contains dead cells?

- 1) Parenchyma tissue, phloem tissue
- 2) Parenchyma tissue, collenchyma tissue
- 3) Collenchyma tissue, sclerenchyma tissue
- 4) Xylem tissue, sclerenchyma tissue

(06) Select the correct graph which shows the way of current varies with potential difference.



(07) Which physical / chemical property of gold is used for the extraction of gold?

- 1) Ductility
- 2) Melting point
- 3) Density
- 4) Reactivity

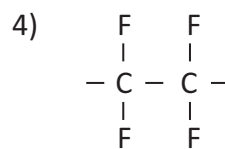
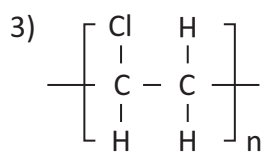
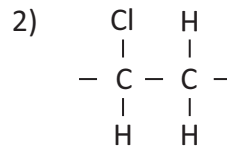
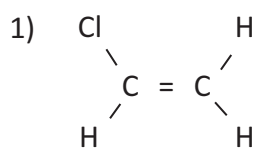
(08) Which catalyst is used in manufacturing margarine by unsaturated fats?

- 1) Porous Iron
- 2) Platinum
- 3) Nickel
- 4) NaCl

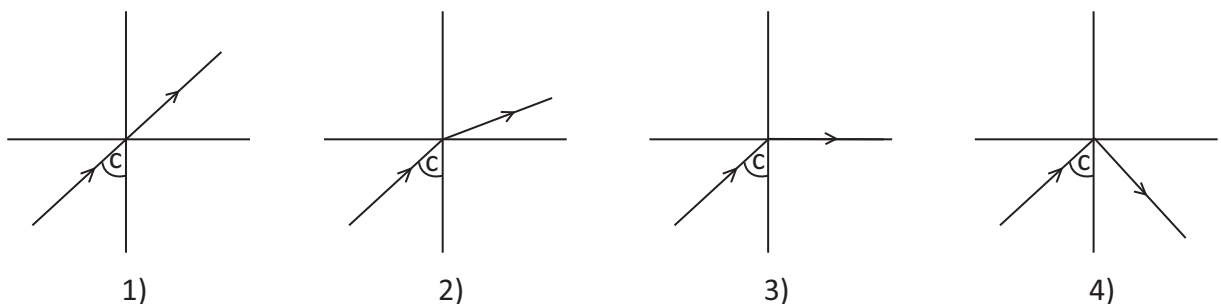
(09) The kingdoms to which only heterotrophs belong is;

- 1) Fungi and protozoa
- 2) Protista and Plantae
- 3) Plantae and animalia
- 3) Fungi and animalia

(10) Of the following structures select the repeating unit of the polymer polychloroethene?



(11) Which diagram shows the critical angle correctly?



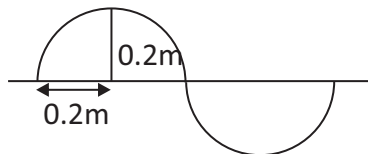
(12) The reason for using Agar in culture medium which is used in tissue culture;

- 1) To provide nutrients
- 2) To solidify the medium
- 3) To increase the cell division
- 4) To obtain identical clones

(13) Amal's skin is dry and blisters have appeared on his knee and elbows. Further Bito spots are in his eyes. From which of the following deficiencies of Vitamins is he suffering?

- 1) Vitamin A
- 2) Vitamin B
- 3) Vitamin C
- 4) Vitamin D

(14) What is the wave length and the amplitude of the wave shown by the diagram?



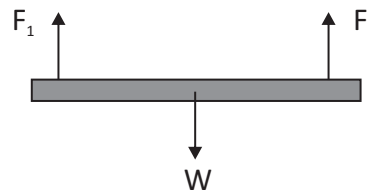
- 1) 0.2m, 0.2m
- 2) 0.4m, 0.1m
- 3) 0.8m, 0.4m
- 4) 0.8m, 0.2m

(15) How many autosomal pair of chromosomes does a human possess?

- 1) 1 pair
- 2) 22 pairs
- 3) 23 pairs
- 4) 46 pairs

(16) The object given below maintains the equilibrium under the action of three parallel forces. Select the correct relationship of three parallel forces.

- 1)  $F_1 + F_2 > W$
- 2)  $F_1 + F_2 = W$
- 3)  $F_1 = F_2 = W$
- 4)  $F_1 + F_2 = 0$



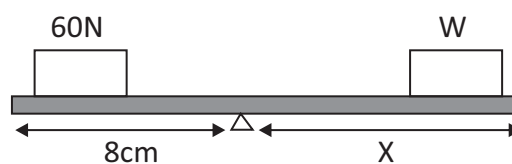
(17) If 50g of  $\text{CaCO}_3$  is heated well how many oxygen atoms are present in the gaseous product?

(Ca = 40, C = 12, O = 16)

- 1)  $1.8066 \times 10^{23}$
- 2)  $3.011 \times 10^{13}$
- 3)  $6.022 \times 10^{23}$
- 4)  $7.2044 \times 10^{24}$

(18) 60N load and W load are kept on each corners of a plank in a horizontal configuration as shown in the diagram. What can be the values for distance X and load W respectively?

- 1) 14cm, 120N
- 2) 48N, 12N
- 3) 10cm, 48N
- 4) 64cm, 120N



(19) Red - green colour blindness is an inherited disease. Select the correct genotype of a carrier female.

- 1)  $X^cX^c$                       2)  $X^0X^0$                       3)  $X^cX^0$                       4)  $X^cY$

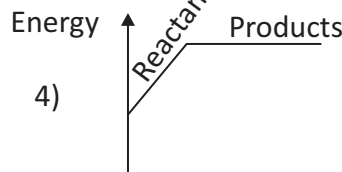
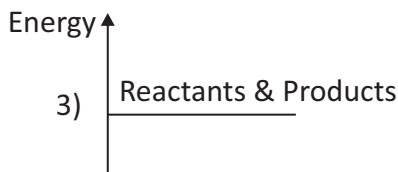
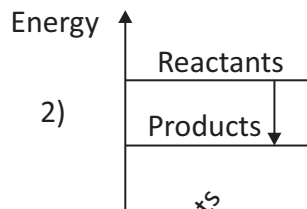
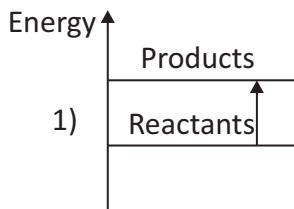
(20) Photosynthetic plants can't be seen in the sea at a depth about 100m. The main reason for this is.

- 1) Reduction of oxygen                      2) Increase of Carbondioxide  
3) Less light intensity                      4) Low temperature

(21) Find the temperature of 800g of aluminum at a temperature  $32^\circ\text{C}$  when 28800J of heat is transferred to it? (Specific heat capacity of aluminum is  $900\text{JKg}^{-1}\text{K}^{-1}$ )

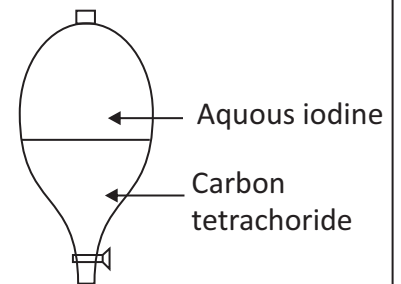
- 1)  $40^\circ\text{C}$                       2)  $72^\circ\text{C}$                       3)  $8^\circ\text{C}$                       4)  $100^\circ\text{C}$

(22) Select the suitable energy level diagram for photosynthesis process happening in green plants.



(23) The separation of components in a mixture can be done using different methods. What is the method used to separate the components 1 shown in the above diagram?

- 1) Filtration                      2) Crystallization  
3) Solvent extraction                      4) Simple distillation



(24) What is the work done in 2 minutes by a machine operating with a power output of 150W?

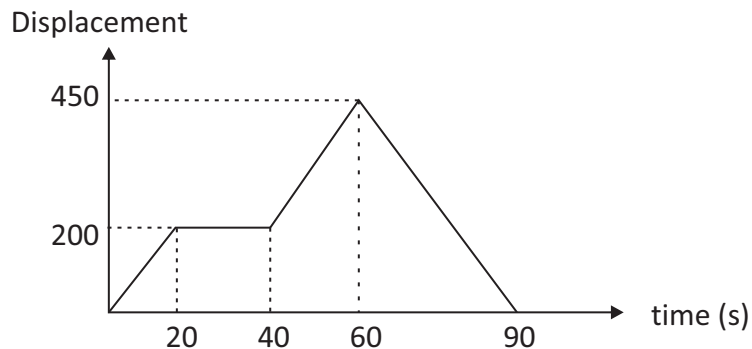
- 1) 9KJ                      2) 900J                      3) 1800J                      4) 18KJ

(25) Select the occasion of diffusion from following,

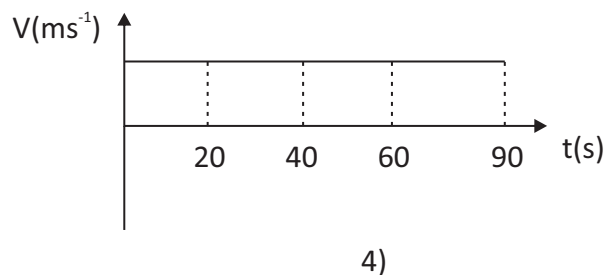
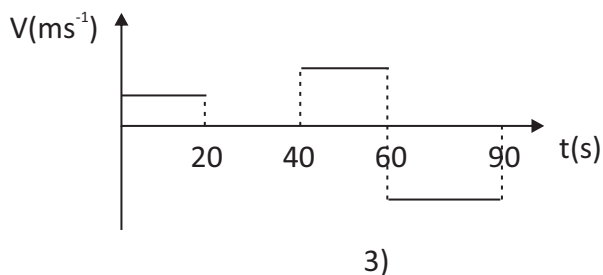
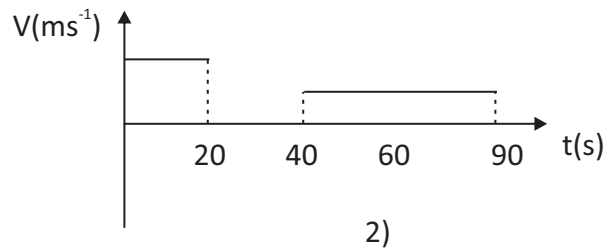
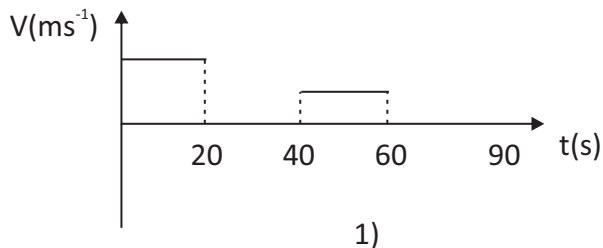
- A - Exchange of gases in the wall of alveoli  
B - Supplying glucose to body tissues from blood.  
C - Double circulation of blood

- 1) A and C only                      2) A and B only  
3) B and C only                      3) A, B, Call

(26) Given below is a displacement - time graph of a motion of an object.



Select the correct velocity - time graph for the above motion.



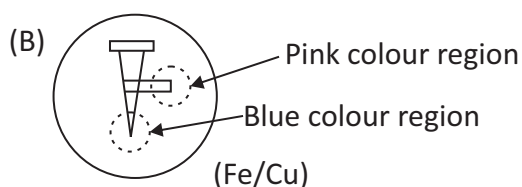
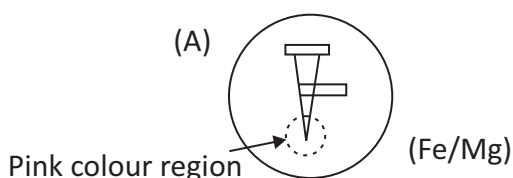
(27) The gas which is used for production of margarine from vegetable oils is

- |                 |                      |
|-----------------|----------------------|
| 1) Oxygen gas   | 2) Hydrogen gas      |
| 3) Nitrogen gas | 4) Carbondioxide gas |

(28) Which of the following phenomena agrees most with Newton's third law of motion?

- 1) A ball falling down from a higher level bounces after touching the ground.
- 2) The velocity of fruit falling from a tree reaches the maximum value when it touches the ground.
- 3) When a moving bus suddenly stops by applying brakes the passenger who is standing on a moving bus without holding anything for support falls towards the forward direction.
- 4) Changing the direction of a moving football by kicking it.

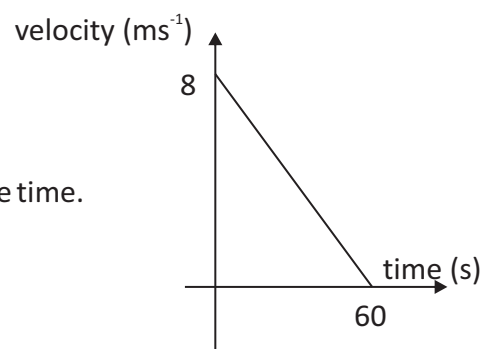
(29) Select the correct observation and the reason for the observation for the activity done to examine the effect of other metals on corrosion of iron.



<u>Observation</u>	<u>Reason</u>
1) Appearance of pink colour around the iron nail in set up A	Formation of $\text{Fe}^{2+}$ ion around iron nail
2) Appearance of pink colour around the Cu strip in set up B	Formation of $\text{Cu}^{2+}$ ion around iron nail
3) Appearance of blue colour around the iron nail in set up B	Formation of $\text{OH}^-$ ion around iron nail
4) Appearance of pink colour around the Cu strip in set up B	Formation of $\text{OH}^-$ ion around Cu strip

(30) The following velocity-time graph illustrates motion of an object during 60s. Consider the statements given below regarding motion.

- A - The object has moved at uniform deceleration within 60s.  
 B - The objects displacement within initial 60s is 240m  
 C - The acceleration of the object uniformly decreased with the time.



The correct statements are;

- |                 |                 |
|-----------------|-----------------|
| 1) A and B only | 2) A and C only |
| 3) B and C only | 4) A, B, C all  |

(31) Select the incorrect statement from the following.

- 1) Rise in temperature of machines can be minimized by reducing frictional forces.
- 2) The limiting frictional force is directly proportional with the normal reaction.
- 3) The limiting frictional force does not depend on the nature of the surfaces in contact.
- 4) The limiting frictional force does not depend on the surface area.

(32) Select the amphoteric oxide from the following.

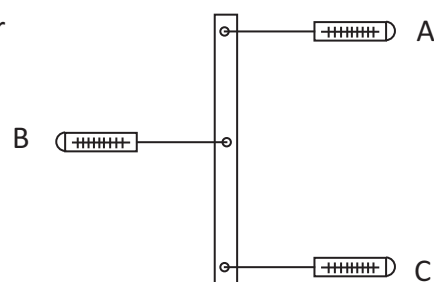
- |                            |                          |                   |                            |
|----------------------------|--------------------------|-------------------|----------------------------|
| 1) $\text{Cl}_2\text{O}_7$ | 2) $\text{Na}_2\text{O}$ | 3) $\text{SiO}_2$ | 4) $\text{Al}_2\text{O}_3$ |
|----------------------------|--------------------------|-------------------|----------------------------|

(33) What is the hormone which influence on releasing ovum into the fallopian tube?

- |                 |              |
|-----------------|--------------|
| 1) Testosterone | 2) FSH       |
| 3) LH           | 4) Oestrogen |

(34) If the strip moves to the right. What are the suitable values for A, B and C respectively.

- 1) 3N, 7N, 2N
- 2) 4N, 7N, 6N
- 3) 7N, 14N, 7N
- 4) 0N, 5N, 5N



(35) Select a polarized molecule from the following molecules.

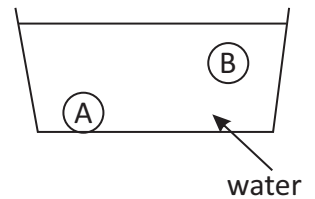
- 1) Hydrogen molecule
- 2) Carbondioxide molecule
- 3) Oxygen molecule
- 4) Hydrogen fluoride molecule

(36) What is the acid used for coagulation of rubber latex?

- 1) Nitric acid
- 2) Hydrochloric acid
- 3) Sulphuric acid
- 4) Acetic acid

(37) Location of two equal volume objects A and B in a water trough is shown below. Select the correct statement.

- 1) Upthrust exerted on A is more than the upthrust exerted on B.
- 2) Densities of A and B objects are equal.
- 3) Mass of A and B objects are equal
- 4) The volume of water displaced by A and B objects are equal.



(38) The diameter of a mango tree is increased with the growth of the mango tree. What is the tissue responsible for the above mentioned growth.

- 1) Phloem tissue
- 2) Cambium
- 3) Collenchyma
- 4) Schelenchyma

(39) When a stone with a mass of 500g is moving at a velocity of  $10\text{ms}^{-1}$ . The kinetic energy of it is;

- 1) 2.5J
- 2) 5J
- 3) 25J
- 4) 25000J

(40) The aim of shortening the food milage is;

- 1) To direct people more to consume native food
- 2) To get an opportunity to consume quality food
- 3) To create a greater demand for the locally produced food.
- 4) To minimize the amount of fuel spent during transport of food.