

1. **P** forms from proplastids. **P** synthesizes **Q**. **Q** is used by **R** to release ATP, CO<sub>2</sub> and H<sub>2</sub>O. **P**, **Q** and **R** are:

P	Q	R
(A) Chloroplasts	Starch	Mitochondria
(B) Chromoplasts	Fat	Golgi complex
(C) Leucoplasts	Proteins	Lysosomes
(D) Proplastids	Food	Respiration

2. **Fitness training increases the concentration of lactic acid that athletes can tolerate in their muscles. What is the consequence of this increase?**

(A) Aerobic respiration in muscles can be more rapid	(B) More energy is needed by the muscles
(C) More anaerobic respiration can take place in muscles	(D) Blood flow to the muscles is increased

3. **The correct sequence of following hormones that involved in reabsorption of water, Na<sup>+</sup> ions and Ca<sup>++</sup> ions in nephron is:**

(A) Parathormone → ADH → Aldosterone	(B) Vasopressin → Oxytoxin → Parathormone
(C) Parathormone → Vasopressin → Calciferol	(D) Vasopressin → Aldosterone → Parathormone

4. **Study the following statements regarding Cnidarians.**

*I Ciliated planula larva is present in the life cycle*

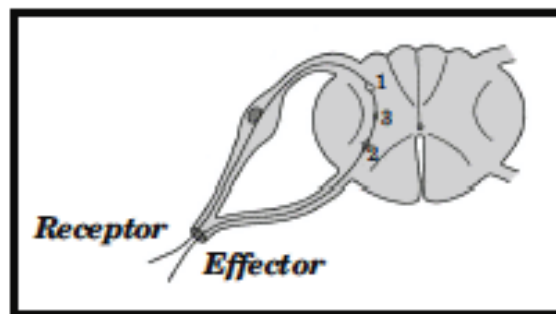
*II Tissue grade of organisation first appears*

*III Trichosysts are present in the body wall*

**The correct combination is:**

(A) Only I and II are correct	(B) Only II and III are correct	(C) Only I and III are correct	(D) All are correct
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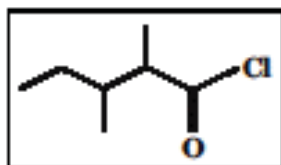
5. **The diagram shows a section of the spinal cord.**



**Which of the following identifies the neurons of the reflex arc shown?**

	Motor neuron	Relay neuron	Sensory neuron
(A)	1	2	3
(B)	1	3	2
(C)	2	1	3
(D)	2	3	1

1. The IUPAC name of



is:

- (A) 2-ethyl-3-methyl butanoyl chloride      (B) 1-chloro-1-oxo- 2, 3-dimethyl pentane  
(C) 2,3 dimethyl pentanoyl chloride      (D) 3,4 dimethyl pentanoyl chloride

2. Assertion (A): Alkali metals impart colour to the flame.

Reason (R): Their ionization energies are low.

- (A) Both 'A' and 'R' are true and 'R' is the correct explanation of 'A'.  
(B) Both 'A' and 'R' are true but 'R' is not the correct explanation of 'A'.  
(C) 'A' is true and 'R' is false.  
(D) 'A' is false and 'R' is true.

3. Which of the following is a redox reaction?

- (A)  $\text{CaC}_2\text{O}_4 + 2\text{HCl} \longrightarrow \text{CaCl}_2 + \text{H}_2\text{C}_2\text{O}_4$       (B)  $\text{Mg}(\text{OH})_2 + 2\text{NH}_4\text{Cl} \longrightarrow \text{MgCl}_2 + \text{NH}_4\text{OH}$   
(C)  $\text{Zn} + 2\text{AgCN} \longrightarrow 2\text{Ag} + \text{Zn}(\text{CN})_2$       (D)  $\text{NaCl} + \text{KNO}_3 \longrightarrow \text{NaNO}_3 + \text{KCl}$

4.  $\Delta H$  and  $\Delta S$  for the reaction are  $+ 30.558 \text{ kJ mol}^{-1}$  and  $0.066 \text{ kJ mol}^{-1}$  at 1 atm pressure. The temperature at which free energy is equal to zero and the nature of reaction below this temperature are:

- (A) 483 K, spontaneous      (B) 443 K, non-spontaneous      (C) 443 K, spontaneous      (D) 463 K, non-spontaneous

5. What transition in  $\text{He}^+$  ion shall have the same wave number as the first line in Balmer series of H atom?

- (A)  $7 \longrightarrow 5$       (B)  $4 \longrightarrow 2$       (C)  $6 \longrightarrow 4$       (D)  $5 \longrightarrow 3$





**Sample Questions** **GENERAL KNOWLEDGE** **Class XI**

1. Study the relationship between the figures in Set I and find the missing figure in Set II?

I

II



2. The Simla Pact between India and Pakistan was signed by:  
 (A) Indira Gandhi and Zia-ul-Haq (B) Lal Bahadur Shastri and Ayub Khan  
 (C) Indira Gandhi and Zulfikar Ali Bhutto (D) Rajiv Gandhi and Benazir Bhutto
3. Which of the cities listed below is scheduled to host the 19<sup>th</sup> Commonwealth Games in 2010?  
 (A) Kuala Lumpur (B) Bangkok (C) Victoria (D) New Delhi
4. What does the term 'pixel' as used in digital images stand for?  
 (A) Format (B) Resource Locator (C) Picture element (D) None of these
5. What is the duration of the zero hour in the Lok Sabha?  
 (A) 15 minutes (B) Half an hour (C) One hour (D) Not specified



1. The moment of inertia of a uniform circular disc of radius  $R$  and mass  $M$  about an axis touching the disc at its diameter end and normal to the disc is.

(A)  $\frac{MR^2}{2}$       (B)  $MR^2$       (C)  $\frac{2}{5} MR^2$       (D)  $\frac{3}{2} MR^2$

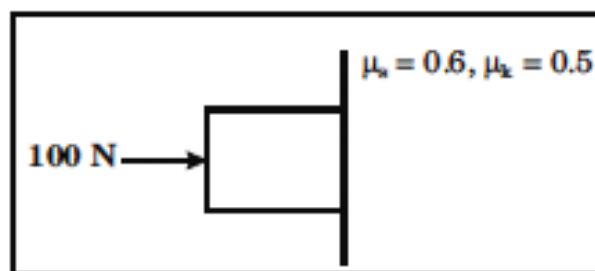
2. If 'h' is the height of capillary rise and 'r' be the radius of capillary tube, then which of the following relation will be correct?

(A)  $hr = \text{constant}$       (B)  $\frac{h}{r^2} = \text{constant}$       (C)  $hr^2 = \text{constant}$       (D)  $\frac{h}{r} = \text{constant}$

3. A man of mass 60 kg stands on the floor of a lift which is accelerating downwards at  $1 \text{ m/s}^2$ . Then, the reaction of the floor of the lift on the man is: (Take  $g = 10 \text{ m/s}^2$ )

(A) 528 N      (B) 600 N      (C) 540 N      (D) 546 N

4. A block of mass 3 kg is pressed against a rough wall as shown in the figure.

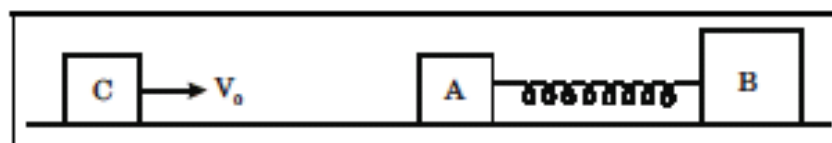


The friction force between the wall and the block is:

(Take  $g = 10 \text{ m/s}^2$ )

(A) 60 N      (B) 50 N      (C) 30 N      (D) 20 N

5. A block C of mass 'm' is moving with velocity  $v_0$  and collides elastically with block A of mass 'm' and connected to another block B of mass  $2m$  through spring of spring constant 'k'. What is 'k' if  $x_0$  is compression of spring, when velocity of A and B is same?



(A)  $\frac{mv_0^2}{x_0^2}$       (B)  $\frac{mv_0^2}{2x_0^2}$       (C)  $\frac{3}{2} \frac{mv_0^2}{x_0^2}$       (D)  $\frac{2}{3} \frac{mv_0^2}{x_0^2}$