



# Elite 11 (PBC) Sample Paper

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*This question paper is a model test paper. Some of these questions may have appeared in the previous years' tests. The actual test may have a different number of questions and questions of different types. This paper is meant only to provide an idea of the kind of questions that may be asked in the test*

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- An electric iron draws a current of 15A from a 220 V supply. What is the cost of using iron for 30 min everyday for 15 days if the cost of unit (1 unit = 1 kW hr) is 2 rupees?  
(a) Rs. 49.5 (b) Rs. 60  
(c) Rs. 40 (d) Rs. 10
- Two different sources of light A and B have wavelength  $0.7 \mu\text{m}$  and  $0.3 \mu\text{m}$  respectively. Then  
which of the following statement is true  
(a) A has greater energy than B (b) B has greater energy than A  
(c) Both has equal energy (d) None of the above
- The type of radiation absorbed by  $\text{CO}_2$  molecule in atmosphere are  
(a) X-rays (b) Gamma rays  
(c) Infra-red rays (d) UV-rays
- A Parachutist of weight  $W$  strikes the ground with his legs fixed and come to rest with an upward acceleration of magnitude  $3g$ . Force exerted on him by the ground during landing is  
(a)  $W$  (b)  $2W$   
(c)  $3W$  (d) None of the above
- Eight identical spherical mercury drops charged to a potential of 20 v each are coalesced into a single spherical drop  
a) The internal Energy of the system remains the same  
b) The new potential of the drop is 80 V  
c) Internal Energy of the system decreases  
d) The potential remains the same i.e. 20 V
- The electronic configuration of an ion  $\text{M}^{2+}$  is 2, 8,14. If its mass is 56, the number of neutrons in its nucleus is:  
(a) 30 (b) 32  
(c) 34 (d) 42
- If the quantity of metal in a metallic oxide is 60%, then its equivalent weight is:  
(a)  $\frac{1}{5}$  of molecular weight (b)  $\frac{1}{2}$  of molecular weight  
(c)  $\frac{3}{2}$  of molecular weight (d)  $\frac{3}{5}$  of molecular weight
- The normality of 0.3 M phosphoric acid is:  
(a) 0.1 (b) 0.9  
(c) 0.3 (d) 0.6
- Structures of nuclei of three atoms A, B and C are given below:

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A has 90 protons and 146 neutrons

B has 92 protons and 146

neutrons C has 90 protons and

148 neutrons

Based on the above data, which of these atoms are isotopes and which are isobars?

- a) A and C are isotopes; B and C are isobars
- b) A and B are isotopes; A and C are isobars
- c) B and C are isobars; A and B are isotopes
- d) A and C are isotopes; A and B are isobars

10. Which of the given metals liberate hydrogen gas in reaction with both acids and bases ?

- a) Sodium
- b) Potassium
- c) Magnesium
- d) Zinc

11. Mitosis

- a. leads to recombinant daughter cells
- b. is a reduction division
- c. leads to formation of parental type of daughter cells
- d. occurs in gametes

12. Wings of birds and insects are

- (a) vestigial organs
- (b) Homologous organs
- (c) Paralogous organs
- (d) Analogous organs

13. Mitochondria and Chloroplasts are similar because

- (a) Both have nuclei
- (b) Both have 80s ribosomes
- (c) Both have DNA
- (d) Both have single membrane envelope

14. The enzyme pepsin is secreted by

- (a) Inner lining of oesophagus
- (b) Gastric lining of stomach
- (c) Inner lining of duodenum
- (d) Gall bladder

15. Pick the odd one out

- (a) Down syndrome
- (b) Haemophilia
- (c) Malaria
- (d) Phenylketonuria

### Answer Key

1-a	2-b	3-c	4-d	5-b	6-a	7-b	8-b	9-a	10-d
11-c	12-d	13-c	14-b	15-c					