

Time: 20 Minutes

Marks: 12

Multiple Choice Questions  
(1 mark for each)

Serial No. Of the Answer Book \_\_\_\_\_

**SECTION-A**

Note:

- 1) Attempting all MCQs is compulsory. This paper along with the OMR sheet must be returned to the superintendent after due time.
- 2) Fill the circle (A)(B)(C)(D), which one is correct with blue or black ball in separate OMR Sheet like
- 3) If more than one circle in the OMR sheet is filled then no credit will be given to such answer.

I.i. What is the frequency of oscillation if time period is 20 ms ?

- (A) 0.02 HZ       50 HZ      (C) 0.5 HZ      (D) 40 HZ

ii. The unit of spring constant is :

- (A) NC<sup>-1</sup>      (B) Nm       Nm<sup>-1</sup>      (D) NS<sup>-1</sup>

iii. Which of the following cannot transmit sound ?

- (A) Gas      (B) Liquid      (C) Solid       Vacuum

iv. Index of refraction for diamond is :

- 2.417      (B) 1.544      (C) 1.434      (D) 1.333

v. Which of the following represents one Ohm ?

- (A) JC<sup>-1</sup>       VA<sup>-1</sup>      (C) JS<sup>-1</sup>      (D) WA<sup>-1</sup>

vi. The human eye forms the image of an object at its:

- (A) Pupil      (B) Iris       Retina      (D) Cornea

vii. The value of Coulomb's constant (K) depends on:

- (A) Value of charges       Material medium      (C) Separation between charges       All of these

viii. If the distance between two charges is doubled, the force between them becomes :

- 1/4<sup>th</sup>      (B) Four times      (C) Half      (D) Double

ix. A step-up transformer increases :

- (A) Energy       Voltage      (C) Power      (D) Current

x. The Boolean expression for NAND gate is :

- (A)  $X = A + B$       (B)  $X = \overline{A + B}$         $X = \overline{AB}$       (D)  $X = \overline{A}$

xi. Which of the following information storage device is least use these days ?

- (A) Compact disc      (B) Hard drive      (C) Flash drive       Floppy

xii. What is the number of neutrons in  ${}_{92}^{242}\text{Pu}$  ?

- 150      (B) 242      (C) 92      (D) 334