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Answer Sheet No. \_\_\_\_\_

Sig. of Candidate. \_\_\_\_\_

Sig. of Invigilator. \_\_\_\_\_

**APPLIED SCIENCES HSSC-I****SECTION – A (Marks 10)**

Time allowed: 10 Minutes

**NOTE:** Section-A is compulsory. All parts of this section are to be answered on the question paper itself. It should be completed in the first 10 minutes and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. Do not use lead pencil.

Q. 1 Circle the correct option i.e. A / B / C / D. Each part carries one mark.

- (i) Value of G is:  
A. 6.63  
B.  $6.63 \times 10$   
C.  $6.63 \times 10^{-11}$   
D. 6.663333
- (ii) Unit of acceleration is:  
A. m/sec  
B.  $m/(\text{sec})^2$   
C. N  
D. N/m
- (iii) Unit of power is:  
A. Watt  
B. N  
C. m/sec  
D. joule
- (iv) When the change in velocity is decreasing then it is called:  
A. deceleration  
B. retardation  
C. only option A  
D. both options A & B
- (v) Equation of Newton's third law of motion is:  
A.  $F = ma$   
B.  $F = -F$   
C.  $mgh$   
D.  $\frac{1}{2}mv^2$
- (vi) Equation of power is:  
A.  $P = VI$   
B.  $P = mgh$   
C.  $P = ma$   
D.  $P = F.d$
- (vii) Name of group 5 in the periodic table is:  
A. halogens  
B. carbon family  
C. nitrogen family  
D. oxygen family
- (viii) Valency of group 6 in the periodic table is:  
A. +1  
B. +4  
C. -2  
D. -3
- (ix) When alkali & base reacts with each other, forms salt and water then this reaction is called:  
A. sublimation  
B. crystallization  
C. neutralization  
D. hydrogenation
- (x) Dot product of force and displacement is called:  
A. work done  
B. power  
C. energy  
D. force

For Examiner's use only:

Total Marks:

10

Marks Obtained:



# APPLIED SCIENCES HSSC-I

106

Time allowed: 2:20 Hours

Total Marks Sections B and C: 40

NOTE: Answer any thirteen parts from Section 'B' and any two questions from Section 'C' on the separately provided answer book. Use supplementary answer sheet i.e. Sheet-B if required. Write your answers neatly and legibly.

## SECTION – B (Marks 26)

Q. 2 Answer any THIRTEEN parts. The answer to each part should not exceed 2 to 4 lines. (13 x 2= 26)

- (i) Define power in terms of voltage and current?
- (ii) What is decomposition reaction?
- (iii) What are vectors?
- (iv) What is negative vector?
- (v) State Newton's gravitational law?
- (vi) Derive 'G' from Newton's gravitational law?
- (vii) What are the types of friction also illustrate them?
- (viii) Why we don't even walk on the surface of earth without friction.
- (ix) What are the benefits of gravity in medical field?
- (x) How many periods are there in the periodic table also illustrate their valencies?
- (xi)  $MgCl_2 + NaOH \longrightarrow$
- (xii)  $CaCO_3 + HCl \longrightarrow$
- (xiii) What is work done? Briefly define it.
- (xiv) Differentiate between Atom and Molecule.
- (xv) Differentiate between Atomic Number and Mass Number.
- (xvi) What is Ionic Bond?
- (xvii) What are Hydrates? Give two examples.

## SECTION – C (Marks 14)

Note: Attempt any TWO questions. All questions carry equal marks.

(2 x 7 = 14)

- Q. 3 What are rectangular components of a Vector and derive vertical and horizontal components.
- Q. 4 What are the types of solution? Explain them with examples.
- Q. 5 What are the different types of reactions? Explain them with examples.