

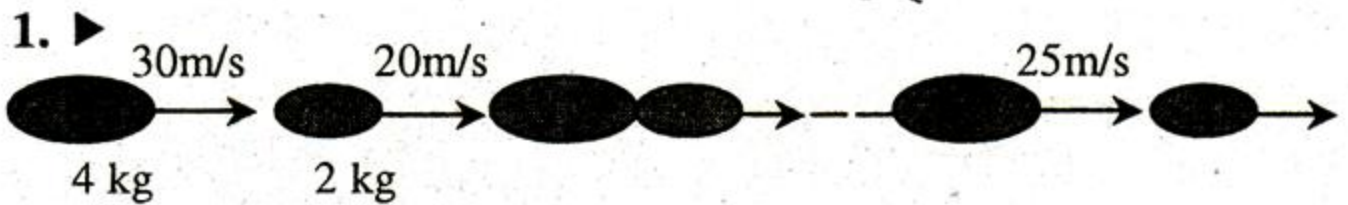
## Model Question of SSC Examination 2016


Sub: Physics (Creative)

Time: 2 Hours



Total Marks-40

(Answer any four of the following Questions)



- a. What is force? 1
  - b. What do you mean by inertia of motion? 2
  - c. Calculate the impulse of force of the first body of above stem. 3
  - d. Analyze the law of conservation of momentum in the light of above stem. 4
2.  In the following table the velocity of car is given in every alternate five second.

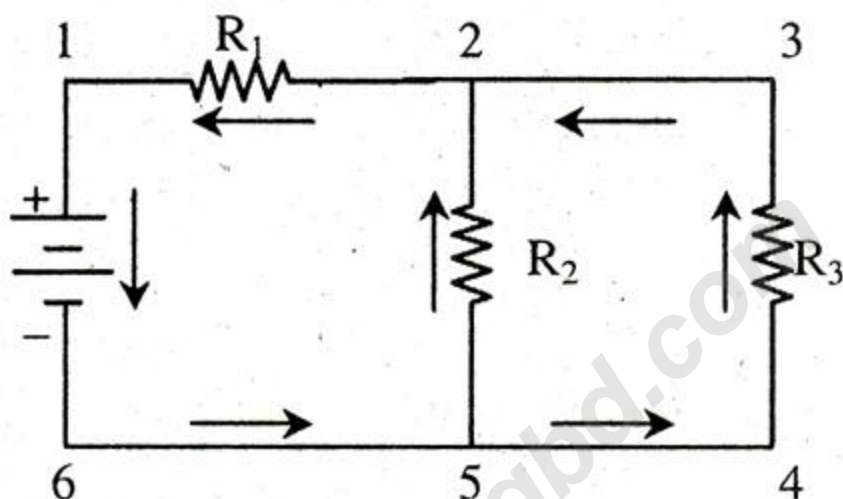
Time ((Sec)	0	5	10	15	20	25	30	35	40
Velocity ( $\text{ms}^{-1}$ )	0	10	20	30	30	30	30	15	0

- a. What is force? 1
  - b. Is velocity a scalar or vector quantity? Explain it. 2
  - c. What distance will travel the car in 20 sec? 3
  - d. What distance will travel by the car from the beginning? 4
3.  A yellow light incident from glycerin to air making angle of incidence  $40^\circ$ . Refractive index of glycerin with respect of air is 1.6 and the velocity of light in air  $3 \times 10^8 \text{ ms}^{-1}$ .
- a. What is called optical Centre of lens? 1
  - b. 'Power of lens is 2.5 D'-What do you mean by this? 2
  - c. Calculate the velocity of light in glycerin. 3
  - d. Is it possible to form total internal reflection from the above stem? Explain your logic mathematically. 4
4.  Rafa and Saifa are two friends. Rafa had eye problem due to which she used spectacle of his +2d. Saifa once felt that she could not see the letters in her book clearly but she see the

letter inboard. Saifa went to eye doctor and the doctor prescribed her to use in the spectacle to remove her problem.

- What is optical center? 1
- What type of image will be formed when the object is at a distance  $2f$  of the lens? 2
- Why Rafa use  $+2d$  power spectacle? Explain. 3
- Which type of lens of spectacle was prescribed to saifa by doctor? And why? Explain with fig. 4

5. ►



- What is current? 1
- Explain Ohm's law? 2
- If  $R_1 = R_2 = R_3 = 10$  ohms and supplied electromotive force is 10 volts, what is the current in the circuit? 3
- From the above figure, which part of connection is applicable in our house? Explain with advantages. 4

6. ► Saima thought watching the fan above her head; it is running by the principle of A.C. motor. There was a U shaped magnet in the fan. She also thought what will be the amount of current in secondary coil of a transformer of  $n = 90$  if in primary coil  $n = 15$  and  $I = 5$  amp.

- What is induced magnet? 1
- Write down the relation of  $E$  &  $I$  in case of a transformer. 2
- What will be the current of the Secondary coil? 3
- Describe the working principle of the motor using that magnet. 4

## Model Question of SSC Examination 2016

## Sub: Physics (MCQ)

Time: 35 minutes

Total Marks- 35

[Darken the circle (O) of the correct option from the following alternatives]

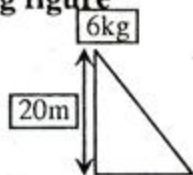
1. When Logy Beard was able to send pictures on television—  
(a) In 1926                      (b) In 1924  
(c) In 1962                      (d) In 1942
  2. What type of motion does the hand of a clock have?  
(a) Linear motion    (b) Elliptical motion  
(c) Periodic motion    (d) Vibratory motion
  3. The distance traveled in a given time by a freely falling body from rest will be—  
(a) Proportional of the time  
(b) Proportional to the square of that time  
(c) Inversely proportional to that time  
(d) Inversely proportional to the square of that time
  4. The acceleration of a moving body can be found from:  
(a) area under velocity-time graph  
(b) area under distance-time graph  
(c) slope of the velocity-time graph  
(d) slope of the distance-time graph
  5. What is the name of the apparatus used to measure the atmospheric pressure?  
(a) Thermometer    (b) Barometer  
(c) Manometer        (d) Seismometer
  6. The amount of liquid pressure is—  
(a) Proportional to its depth  
(b) proportional to area  
(c) Inversely proportional to density  
(d) equal to acceleration due to gravity
  7. What is the name of the fourth state of matter?  
(a) Gas                      (b) Plasma  
(c) Solid                      (d) Liquid
  8. What will happen of magnetic field if electric— current flows through a solenoid made by insulated wire wound over a cylinder.  
(a) Will be condensed and weak  
(b) Will be condensed and strong  
(c) Will be less condensed and weak  
(d) Will be less condensed but strong
  9. In which functions, electromagnetic induction is used?  
(a) Transistor            (b) Motor  
(c) Amplifier              (d) Transformer
  10. In Which process, electromotive force is produced  
i. If any magnet is kept motionless in a wire coil  
ii. If any wire coil is rotated in a magnetic field  
iii. If any magnet is rotated around a motionless wire coil  
Which one of the following is correct?  
(a) i                              (b) ii  
(c) i and ii                      (d) ii and iii
  11. What will happen of induced electric current if the number of turns of coil is increased?  
(a) The electric current will be reduced  
(b) The electric current will be increased  
(c) The magnitude of electric current will be zero  
(d) The magnitude of electric current will be negative
  12. What do mean by alpha particle emitting from radioactive elements?  
(a) a hydrogen nucleus  
(b) a helium nucleus  
(c) a charge neutral particle  
(d) a negative particle
  13. What is actually beta ray emitted due to the radioactive decay?  
(a) the flow of negative electrons  
(b) a charge neutral particle  
(c) a positive nucleus  
(d) flow of positive protons
  14. What type of wave sound is?  
(a) Transverse wave  
(b) Electromagnetic wave  
(c) Longitudinal wave  
(d) Radio wave
  15. In which medium the velocity of sound is maximum?  
(a) Solid                      (b) Liquid  
(c) Gaseous                      (d) Plasma
  16. A dead bat seen hanging from the electric lines—  
i. bat lacks instant clear idea about the position and distance between the two electric lines  
ii. It did not hear the echo of ultrasonic sound ahead  
iii. It is hanging with one wire and touching the other  
Which one of the following is correct?  
(a) i and ii                      (b) i and iii  
(c) ii and iii                      (d) i, ii and iii
- On the body of an electric bulb 100 W-220 V is written.  
Answer the question 17 and 18 According to the stem
17. What is its filament resistance?  
(a) 48  $\Omega$                       (b) 418  $\Omega$   
(c) 424  $\Omega$                       (d) 484  $\Omega$
  18. What amount of electricity will flow through it?  
(a) 0.455 A                      (b) 345 A  
(c) 45.2 A                      (d) 245 A
  19. A body of mass m is kept at 20 m, 30 m, 40 and 50 m height respectively. At Which position its potential energy is maximum?  
(a) 20 m                      (b) 30 m  
(c) 40 m                      (d) 50 m

20. The working of a rocket is based on  
 (a) Newton's first law of motion  
 (b) Newton's second law of motion  
 (c) Newton's third law of motion  
 (d) Newton's first and second law
21. Starting from rest the velocity of a freely falling body is  
 (a) Inversely proportional to the time of fall  
 (b) Directly proportional to the time of fall  
 (c) Inversely proportional to the square of the time of fall  
 (d) Directly proportional to the square of the time of fall
22. If the distance between the earth and moon is doubled then the gravitational force will become—  
 i. half                      ii. double  
 iii. one fourth  
 Which one of the following is correct?  
 (a) i                          (b) ii  
 (c) iii                        (d) i, ii & iii

23. A mass is thrown vertically upwards with a certain velocity. Neglecting air resistance, when of the following is correct?  
 (a) Kinetic energy is maximum at the Highest point  
 (b) Total energy of the mass is constant throughout the motion  
 (c) The momentum of the mass is constant throughout the motion  
 (d) Potential energy of the mass increases uniformly with time
24. Which is the velocity gradient?  
 (a) The derivative of acceleration with respect to distance  
 (b) The derivative of velocity with respect to distance  
 (c) The derivative of displacement with respect to distance  
 (d) The derivative of force with respect to distance

25. The example of conservation of momentum is—  
 i. Jumping from boat  
 ii. Backward motion of a gun  
 iii. Standing on the ground  
 Which one of the following is correct?  
 (a) i & ii                      (b) i & iii  
 (c) ii & iii                    (d) i, ii & iii

Answer the question 26 and 27 according to the following figure

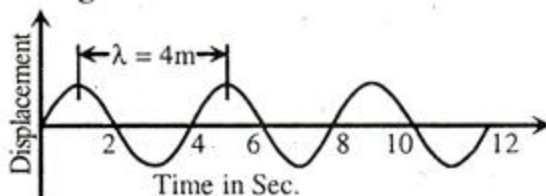


26. What will be the potential energy of that body?

- (a) 1176 J                      (b) 120 J  
 (c) 58.8 J                      (d) 200 J

27. If the body is thrown upward direction from ground at  $9.8 \text{ ms}^{-1}$  velocity. How much time it will take to come back to ground?  
 (a) 2s                          (b) 3s  
 (c) 4s                          (d) 5s
28. The tendency or property of a body to maintain its present state for ever is called what?  
 (a) force                      (b) acceleration  
 (c) inertia                    (d) velocity
29. Which one is the dimension of force?  
 (a)  $\text{MLT}^{-2}$                       (b)  $\text{MLT}^{-1}$   
 (c)  $\text{ML}^{-2}\text{T}^{-2}$                       (d)  $\text{M}^{-1}\text{LT}^{-2}$
30. Which one of the following forces is stronger?  
 (a) gravitational force  
 (b) weak nuclear force  
 (c) electromagnetic force  
 (d) strong nuclear force
31. Which one is the unit of momentum?  
 (a)  $\text{kg m}$                       (b)  $\text{kg ms}^{-1}$   
 (c)  $\text{kg m}^2\text{s}^{-1}$                       (d)  $\text{kg ms}^{-2}$
32. Biomass is mainly composed of—  
 (a) Nitric acid and Hydrogen  
 (b) Carbon and oxygen  
 (c) oxygen and Hydrogen  
 (d) Carbon and Hydrogen

Answer the questions (33 & 34) according to the figure in below



33. What will be the velocity of the wave in the above figure?  
 (a)  $\frac{1}{4} \text{ m/s}$                       (b)  $\frac{1}{2} \text{ m/s}$   
 (c)  $1 \text{ m/s}$                       (d)  $2 \text{ m/s}$
34. if  $\lambda$  is doubled and frequency is constant, then—  
 (a) after 6 sec travelling distance of the wave transmitting particles is 3m  
 (b) after 6 sec travelling distance of the wave transmitting particles is 6m  
 (c) after 6 sec travelling distance of the wave transmitting particles is 12m  
 (d) after 6 sec travelling distance of the wave transmitting particles is 15m
35. The number of turns of primary coil in a transformer is 50, voltage 210 V. If the number of turns in the secondary coil is 100, what will be the Voltage?  
 (a) 34 V                      (b) 40 V  
 (c) 420 V                      (d) 742 V

1	(a)	2	(c)	3	(b)	4	(c)	5	(b)	6	(a)	7	(b)	8	(b)	9	(d)	10	(d)	11	(a)	12	(b)	13	(a)	14	(c)	15	(a)	16	(b)	17	(d)	18	(b)	19	(d)	20	(c)		
21	(d)	22	(c)	23	(b)	24	(b)	25	(a)	26	(b)	27	(a)	28	(c)	29	(a)	30	(d)	31	(b)	32	(d)	33	(c)	34	(b)	35	(c)												