

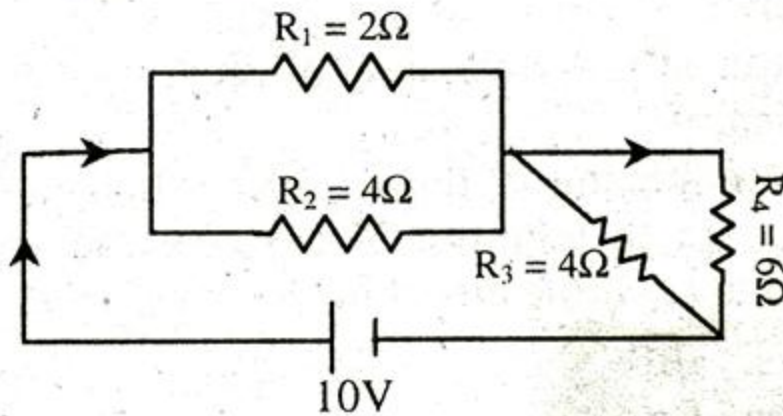
Model Question of SSC Examination 2016
Sub: Physics (Creative)

Time: 2 Hours

Total Marks-40

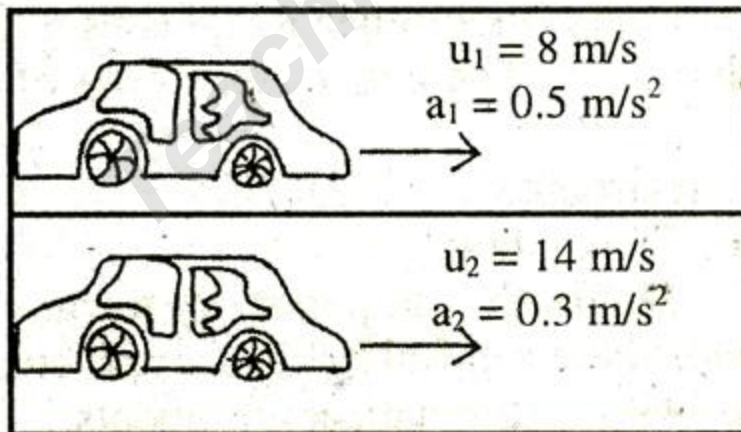
(Answer any four of the following Questions)

1. ► See the circuit



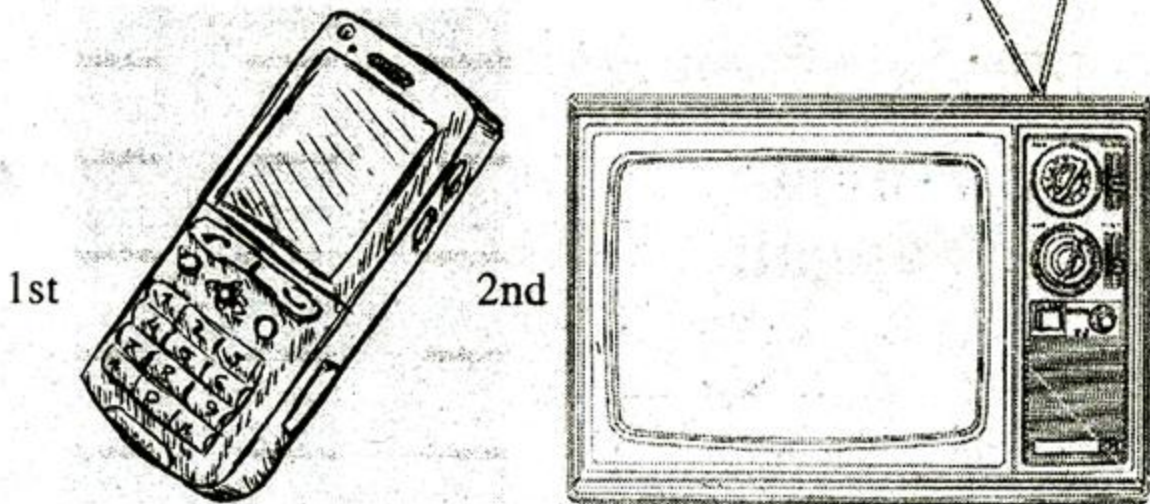
- a. What is electric potential? 1
- b. What do you mean by electric system lose? 2
- c. What is the equivalent resistance of the circuit? 3
- d. What's the way that you use the resistances in houses and what is the equivalent resistance of that circuit? 4

2. ►



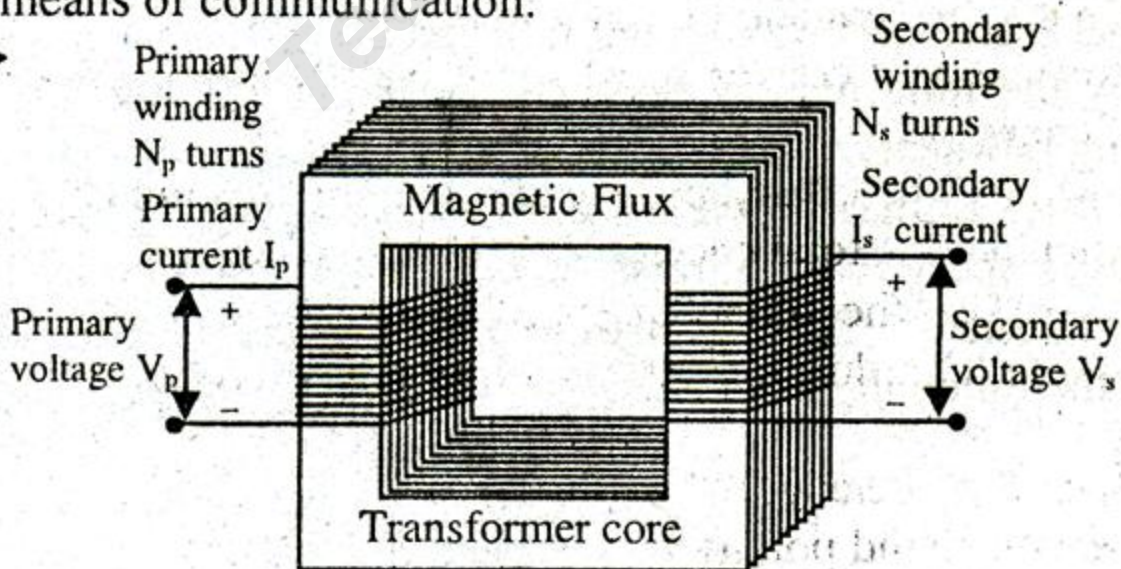
- a. What is efficiency? 1
- b. What do you mean that the power of the car is 2 hp? 2
- c. How long were the both cars competing? 3
- d. In case of first car, will the distance travelled by mean velocity be equal with the distance travelled by uniform velocity. 4

3. ▶



- What is radioactivity? 1
- What is the difference between α and β particle? 2
- How can we watch the live telecast of Bangladesh Srilanka cricket match from Mirpur stadium by 2nd instrument of the stem? 3
- Compare between 1st and 2nd instrument of the stem as a means of communication. 4

4. ▶



In any transformer $E_p = 210 \text{ V}$, $N_s = 500$ and $N_p = 30$

- a. What is the magnetic effect of current? 1
- b. Draw analog and digital signal? 2
- c. What is the value of E_s ? 3
- d. If you want to get the voltage of 550 V then what be the change of number of coil? 4

5. ► If you increase the temperature by 70°C of iron piece of length 6 m and width 4 m , then its area will be 24.5 m^2 . That day temperature was 40°C .

- a. What is the triple point of water? 1
- b. If two bodies have the equal amount of heat, yet can they be at different temperature? Explain. 2
- c. Determine the co-efficient of linear expansion? 3
- d. If you increase the volume 3% of initial volume then what will be the change of temperature? 4

6. ► A expert shooter shot a bullet of mass 10 g from his gun of 6 kg with a velocity of 300 m/s . At the time of shooting the gun creates a reaction force.

- a. What is pitch? 1
- b. Friction is a necessary evil-give argument in favour of it? 2
- c. What is the backward velocity of the gun? 3
- d. Is it maintaining the conservative law of momentum? Explain mathematically. 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. Which one of the following quantities is independent?

- (a) Potential difference
- (b) acceleration
- (c) amount of substance
- (d) force

2. What does the tangent drawn at point of the velocity– time graph indicate?

- (a) displacement (b) retardation
- (c) acceleration (d) velocity

The velocity of a car decreases at a uniform rate from 20m/s and 4 m/s in 4 sec.

3. What is the acceleration of the car?

- (a) 4 m/s^2 (b) -4 m/s^2
- (c) 16 m/s^2 (d) -16 m/s^2

4. The car–

- i. will stop after running another 4 sec in case of the prevailing velocity
- ii. covers 48m at the given time
- iii. has an average velocity of 12 m/s

Which one of the following is correct?

- (a) i and ii (b) i and iii
- (c) ii and iii (d) i, ii and iii

5. An efficient civil engineer–

- i. must construct a friction free road
- ii. must fix boards at different distances mentioning highest speed level
- iii. Must warn the drivers about risky bridges

Which one of the following is correct?

- (a) i and ii (b) ii and iii
- (c) i and iii (d) i, ii and iii

6. How can you find out displacement?

- (a) Multiplying work-done by applied force
- (b) dividing work-done by applied force
- (c) dividing work-done by applied by time
- (d) multiplying work done by time taken

7. A joule is compound unit one which is meter, what is another one?

- (a) Watt (b) Newton
- (c) Kilowatt (d) Second

8. Which of the following relation is correct?

(a) $W = \frac{h\rho g}{A}$ (b) $F = h\rho gA$

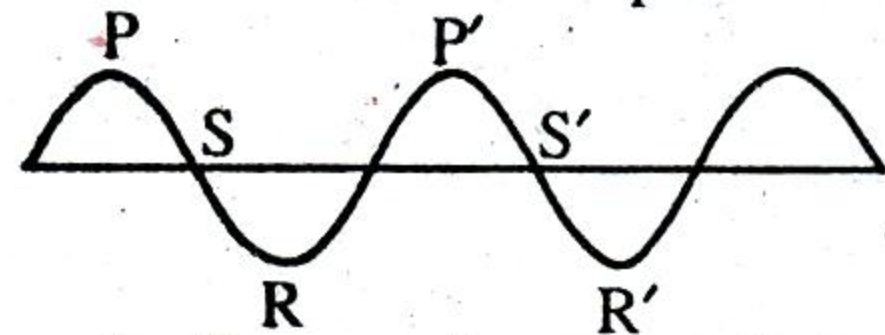
(c) $W = \frac{h\rho}{gA}$ (d) $F = \frac{A}{h\rho g}$

9. What is the unit of buoyancy?

- (a) N (b) N – m
- (c) Pa (d) H – P

10. What is common incident relating to the immersion of a body in any fluid?

- (a) The mass of the body is equal to the amount of the displaced fluid
- (b) The weight of the body is equal to the amount of the displaced fluid
- (c) The weight of the body is less than the amount of the displaced fluid
- (d) the weight of the body is higher than the amount of the displaced fluid



Observe the figure and answer the question no 11 and 12

11. Which are in opposite direction?

- (a) P and P (b) R and R
- (c) P and R (d) S and S

12. Which one indicates wavelength?

- (a) PS (b) PP'
- (c) PR (d) P'R'

13. What will be the temperature in Kelvin scale if it measures 70° in Celcius scale?

- (a) 273 K (b) 373 K
- (c) 243 K (d) 343 K

14. What form of energy are the artificial satellites run by?

- (a) Solar energy (b) Magnetic energy
- (c) Wind energy (d) Biomass energy

15. What does CNG refer to?

- (a) petroleum (b) teflon
- (c) toluene (d) methane

16. Which equation is correct?

- (a) $Ft > (mv - mu)$ (b) $Ft = mv + mu$
- (c) $Ft = mv - mu$ (d) $\frac{F}{t} = mv - mu$

17. In Spherometer least count is

- (a) Pitch/(Total number of deviations of circular scale)
- (b) Pitch/(Total number of deviations of linear scale)
- (c) (Total number of deviations of circular scale)/pitch
- (d) Linear scale reading-Circular scale reading

18. Two friends are sitting face to face in a compartment of a running train. What is one's position with respect to an static reference object?

- (a) Relative rest (b) relative motion
- (c) absolute rest (d) absolute motion

19. Physics teaches us how to—

- i. Know the way
- ii. Go the way
- iii. Show the way

Which one is correct?

- (a) i & ii (b) ii & iii
 (c) i & iii (d) i, ii & iii



20. What is the equivalent resistance of the circuit?

- (a) 1 Ω (b) 2 Ω
 (c) 3 Ω (d) 4 Ω

21. Which one is correct?

- (a) Four resistances are in series
 (b) $R_1 \parallel R_2, R_3 \parallel R_4$
 (c) R_1 series R_3, R_2 series R_4
 (d) Four resistances are in parallel

22. Who taught the world the world to determine the impurity of metals?

- (a) Leonardo de Vinci
 (b) Archimedes
 (c) Galileo (d) Copernicus

23. What isotope is used in treating the abnormal growth of the thyroid gland?

- (a) Iodine-131 (b) carbon-14
 (c) cobalt-60 (d) phosphorus-32

24. What is the refractive index of the material of optical fiber?

- (a) 1.5 (b) 1.6
 (c) 1.7 (d) 1.8

25. What form of energy-conversion applies to an ultra sonogram?

- (a) Light energy > sound energy
 (b) Sound energy > light energy
 (c) Electric energy > light energy
 (d) thermal energy > light energy

Take a look to the chart below and answer the question numbers 26 and 27

	Transformer-1	Transformer-2	Transformer-3
E_p	120V	50V	100V
N_p	1000	1000	2000
N_s	1000	2000	3000

26. Step up transformers—

- i. Transformer-1
- ii. Transformer-2
- iii. Transformer-3

Which one of the following is correct?

- (a) i and ii (b) i and iii
 (c) ii and iii (d) i, ii and iii

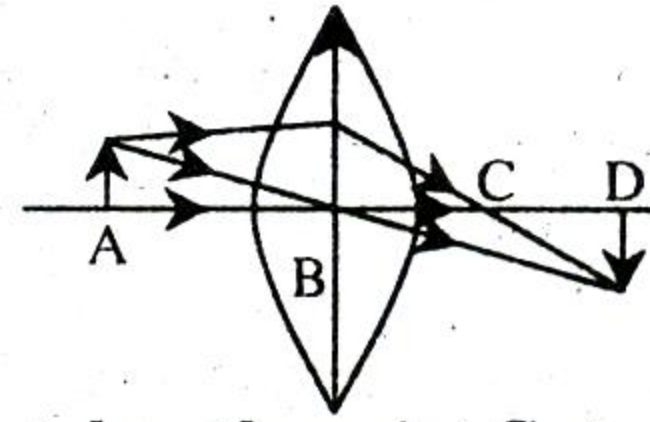
27. What will be the highest output voltage?

- (a) 50V (b) 100V
 (c) 150V (d) 200V

28. What type of image formation applies to a plain mirror?

- (a) Real, erect & upright
 (b) virtual, erect and upright
 (c) real, curved & inverse
 (d) virtual, erect and inverse

Take a look to the figure below and answer the question numbers 29 and 30



29. What does the point C stand for?

- (a) Centre of curvature
 (b) Optical centre
 (c) principal focus
 (d) Secondary focus

30. The figure reveals that—

- i. Refraction has taken place completely
- ii. $l \angle m$
- iii. $BD = AB + BC$

Which one of the following is correct?

- (a) i and ii (b) i and iii
 (c) ii and iii (d) i, ii and iii

Read the passage below and answer the question numbers 31 and 32

Romana, a student of class nine rub's her plastic scale with a piece of woolen cloth and keeps the scale on her table very close to the wall. She is much surprised that the scale gets stuck to the wall for a while.

31. What does the scale receive from the piece of the woolen cloth?

- (a) Electron (b) proton
 (c) neutron (d) positron

32. The passage reveals that—

- i. The scale would attract small pieces of paper
- ii. The piece of cloth would attract small pieces of paper
- iii. The process indicates electrostatic induction

Which one of the following is correct?

- (a) i and ii (b) i and iii
 (c) ii and iii (d) i, ii and iii

33. Whose name of you remember in finding the elastic properties of an spring?

- (a) Robert Boyle (b) Robert Hook
 (c) Roger Bacon (d) Francis Bacon

34. Who is the inventor of fax?

- (a) Martin cooper
 (b) Alexander Fleming
 (c) Alexander Bain
 (d) Charles Babage

35. The body at rest may have—

- (a) Energy (b) Speed
 (c) momentum (d) velocity

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