

ANSWER KEY

2021 MODEL EXAM

SSLC PHYSICS | ARUN.S.NAIR
DRG IN PHYSICS

SSLC MODEL EXAM KERALA

Physics English medium.
Total 34 questions
Maximum mark 40
Time 90 minutes

Q CODE : ME923

Kindly send me in the following number if you have noticed any mistake.
9747113838.

QUESTIONS 1 TO 8

1. Moving coil loud speaker
2. South
3. Refraction of Light
4. Coal
5. Wrong question : focal length of convex mirror is +25cm
6. Direction of electric current
7. Figure C
8. Methane

QUESTIONS 9 TO 20

9. Loudspeaker, Electric mixie
10. High resistivity, High melting point
11. Heater having low resistant heating coil allow to pass more current through it. Current increases and more heat is produced.
12. The split ring has the function of reversing the current to maintain the force in same direction so as to complete full rotation of armature.
13. (b) and (c)
14. Continuous induction is not possible with DC. Because of no continuous change in magnetic flux.
15. (b) and (c)
16. An energy crisis is a society-wide economic problem caused by a constricted supply of energy, leading to diminished availability and increased price to consumers.
 1. Accepting that there is a crisis & working towards addressing it

2. Move towards renewable sources of energy
3. Grow more trees

17. The focal length of given mirror is -12 cm

18. Diamond

Water < glass. < diamond

19. (b) and (c)

20. LED POV DISPLAYS, when a [sparkler](#) is moved around quickly it appears as illuminated shapes

QUESTIONS 21 TO 28

21. Joule's law $H = I^2 R t$

22. Parallel

$$I = V/R = 12/6 = 2A$$

$$I_1 = 12/10 = 1.2 A$$

23. A. Magnet, B. Voice coil

In speakers, electric signals from amplifier is sent through the voice coil. The voice coil inside a permanent magnetic field experience a force (motor principle). The voice coil is attached to a diaphragm, both are move back and forth or vibrates. The back and forth motion or vibration creates *sound* signal

24. Increase the voltage and decrease the current.

Phase line and neutral line

25. $u = -60 \text{ cm}$

$$F = -15 \text{ cm } v = -20 \text{ cm}$$

26. Real, inverted & same size

Focal length = 20cm

27 Blue region or violet

The red colour in the sky at sunset (and sunrise) is due to an effect called scattering. This means a large amount of blue and violet light has been scattered so the light that is received by an observer is mostly of a longer wavelength and therefore appears to be red.

28. Green energy : (b) (c) (e) & (f)

Brown energy : (a) & (d)



QUESTIONS 29 TO 34

29.

$R = 115 \text{ ohm}$

$H = 138000 \text{ J}$

Resistance increases, total current decreases then heat decreases.

30: $\frac{1}{4} \text{ A}$

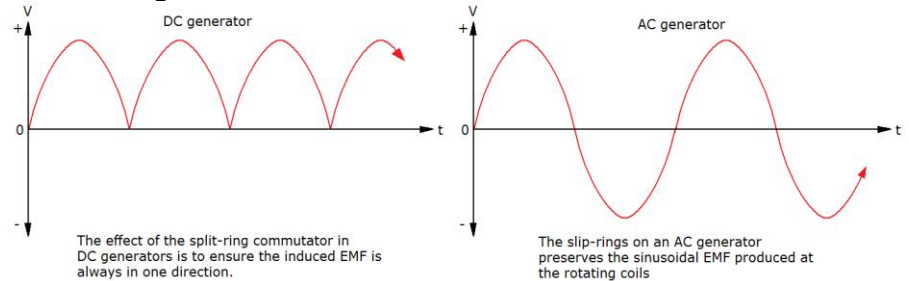
Safety fuse connected in series

When an excessive current flows in the circuit, it generates heat in the circuit which leads to melt the fuse due to its low melting point, and it also opens the circuit. A fuse acts as a circuit breaker and breaks the circuit in case any fault occurs in the circuit.

31.

AC generator

Electro magnetic induction



32. First figure

Number of turns in secondary is more than that of primary

We can see thick wires are used there to decrease the voltage and increase the current. heating loss is reduced when wire is thick, its resistance reduces. Therefore, Joule's heating loss is reduced.

33.

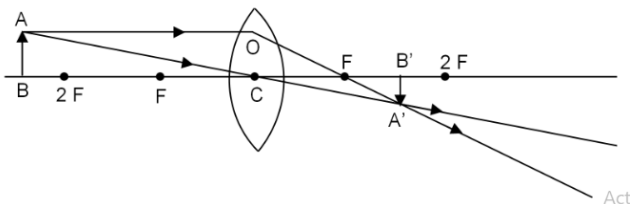


Image is inverted and real.

34.(a) Figure b



(b) A ray of light within a medium such as water or glass from the surrounding surfaces back into the medium. The phenomenon occurs if the angle of incidence is greater than a certain limiting angle, called the critical angle
(C) Changes

