Navik GD Physics Paper 20 March 2021 Shift (2+3)

20 Questions

Que. 1 Zener diode is used as:

1. an amplifier
2. a rectifier
3. a oscillator
4. a voltage regulator

Solution Correct Option **- 4**

Que. 2 Which of the following statement is INCORRECT about necessary conditions for a geostationary satellite?

1. It should revolve in an orbit concentric and coplanar with the equatorial plane of the earth.
2. Its direction of rotation is from east to west.
3. Its period of revolution around the earth should be exactly same as that of the earth about its own axis is., 24 hours.
4. It should revolve at a height of nearly 36,000 km above the earth's surface.

Solution Correct Option **- 2**

Que. 3 A parallel plate air capacitor with no dielectric between the plates is connected to a constant voltage source. What happens to the capacitance if a dielectric of dielectric constant k = 2 is inserted between the plates?

1. Capacitance decreases
2. Capacitance increases by two times
3. Capacitance remains unchanged
4. Insufficient data

Solution Correct Option **- 2**

Que. 4 If a liquid is heated in space under no gravity, the transfer of heat will take place by process of

1. Conduction
2. Convection
3. Radiation
4. Cannot be heated in the absence of gravity

Solution Correct Option **- 3**

Que. 5 The heat exchanged between the system and the surrounding is + 60 J and the internal energy change is – 180 J. Find the work done by/on the system.

1. 150 J
2. 200 J
3. 220 J
4. 240 J

Solution Correct Option **- 4**

Que. 6 If a wire of resistance R is stretched to double of its length, then the new resistance will be

1. R/2
2. 2R
3. 4R
4. 16R

Solution Correct Option **- 3**

Que. 7 If we increase the current in an inductor, self inductance of the inductor will _____.

1. decrease
2. increase
3. remains same
4. first decrease then increase

Solution Correct Option **- 1**

Que. 8 For a series LCR circuit at resonance, the statement which is not true is

1. Peak energy stored by a capacitor = peak energy stored by an inductor
2. Average power = apparent power
3. Wattles current is zero
4. Power factor is zero

Solution Correct Option **- 4**

Que. 9 In photo electric effect intensity of incidence light is made double, then energy of emitted photo electrons will:

1. increase
2. decrease
3. remain same
4. none of these

Solution Correct Option **- 3**

Que. 10 A Vernier caliper has a least count of _____.

1. 0.1 cm
2. 0.001 cm
3. 1 cm
4. 0.01 cm

Solution Correct Option **- 4**

Que. 11 A person runs on a 300m circular track and comes back to the starting point in 200s. Calculate the average speed and average velocity.

1. 1.5m/s, 0
2. 2.5m/s, 2
3. 3 m/s, 3

4. 4 m/s, 5

Solution Correct Option **- 1**

Que. 12 Two moles of oxygen is mixed with one moles of helium. The effective specific heat of the mixture at constant volume is:

1. 1.7 R
2. 2.17 R
3. 2.7 R
4. 3 R

Solution Correct Option **- 2**

Que. 13 The last point on the stress-strain curve that occurs after the ultimate stress point is the

1. Elastic point
2. Upper yield point
3. Lower yield point
4. Fracture point

Solution Correct Option **- 4**

Que. 14 When three identical capacitors are connected in series their equivalent capacitance is 12 μF. Then the capacitance of each capacitor is:

1. 20 μF
2. 36 μF
3. 4 μF
4. 5 μF

Solution Correct Option **- 2**

Que. 15 A hollow metal sphere of radius R is uniformly charged. The electric field due to the sphere at a distance r from the center:

1. Increases as r increases from $r < R$ and for $r > R$
2. Zero as r increases from $r < R$, decreases as r increases from $r > R$
3. Zero as r increases for $r < R$ increases as r increases for $r > R$
4. Decreases as r increases for $r < R$ and for $r > R$

Solution Correct Option **- 2**

Que. 16 Magnetism at the center of a bar magnet is _____?

1. Half of the poles
2. Maximum
3. Zero
4. Minimum

Solution Correct Option **- 3**

Que. 17

Two charges +2 coulomb each are placed 2 m apart in vacuum, force of repulsion between them will be:

1. 9×10^9 N
2. 9×10^9 dyne
3. 9×10^9 kgf
4. 9×10^9 kN

Solution Correct Option - **1**

Que. 18 In a moving coil galvanometer, if the current flowing through it is increased, then the deflection in the coil will

1. increase
2. decrease
3. remains the same
4. None of the above

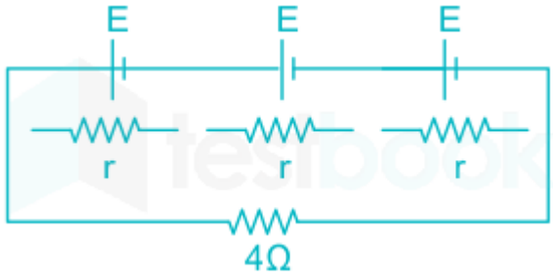
Solution Correct Option - **1**

Que. 19 What is the maximum height a body can reach if the body is thrown vertically upwards with a velocity of 15m/s? (Take g=10m/s^2)

1. 22.5m
2. 11.25m
3. 33.75m
4. 45m

Solution Correct Option - **2**

Que. 20 Find the equivalent internal resistance and potential of the given circuit.



1. r and E
2. r/3 and E/3
3. 3r and 3E
4. r/3 and 3E

Solution Correct Option - **3**