

# IITH PGEE Physics Model Question Paper PDF

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1).The Element of an electric heater is made of

- a) Nichrome
- b) Copper
- c) Aluminum
- d) None of these

Answer is: a)

2).When water is heated from  $0^{\circ}$  Celsius to  $100^{\circ}$  Celsius, the volume of water

- a) Increase gradually
- b) Decrease gradually
- c) First increase, then decrease
- d) First decrease , then increase

Answer is: d)

3).One mega watt hour (MWH) is equal to

- a)  $3.6 \times 10^3$  joule
- b)  $3.6 \times 10^4$  joule
- c)  $3.6 \times 10^7$  joule
- d)  $3.6 \times 10^9$  joule

Answer is: d)

4).At what temperature are the temperature on Celsius and Fahrenheit scales equal?

- a)  $273^{\circ}$  Celsius
- b)  $-273^{\circ}$  Celsius
- c)  $-40^{\circ}$  Celsius
- d)  $40^{\circ}$  Celsius

Answer is: c)

5).The Period of revolution round the sun is maximum by which among the following planets?

- a) Mercury
- b) Venus
- c) Earth
- d) Mars

Answer is: d)

6).Einstein got the Nobel prize for?

- a) Theory of Relativity
- b) Photo-electric effect
- c) Polarisation
- d) Radio activity

Answer is: b)

7).Galvanometer can be converted into a voltmeter by using

- a) Low resistance in series
- b) High resistance in series
  
- c) Low resistance in parallel
- d) High resistance in parallel

Answer is: b)

8).Gas law was given by

- a) Boyle
- b) Ostwald
- c) Arrhenius
- d) Faraday

Answer is: a)

9). Kilowatt – hour is a unit of

- a) Energy
- b) Power
- c) Electric charge
- d) Current

Answer is: b)

10). The ozone layer protects us from

- a) Ultra violet rays
- b) Radio waves
- c) Visual radiation
- d) Infrared radiation

Answer is: a)

11). What will be the temperature of the maximum if 100 gm ice at  $0^{\circ}\text{C}$  is put in 100 gm water at  $80^{\circ}\text{C}$ ? (Latent heat of ice =  $80\text{ cal / gm}$ )

- a)  $35^{\circ}\text{C}$
- b)  $45^{\circ}\text{C}$
- c)  $60^{\circ}\text{C}$
- d)  $0^{\circ}\text{C}$

Answer is: d)

12). Fire in the diesel engine is produced by which of the following?

- a) Compression
- b) Spark plug
- c) Friction
- d) Self starter

Answer is: a)

13). With an increase in pressure the melting point of wax will.

- a) Decrease
- b) Increase
- c) First increase and then decrease
- d) Remain Unaffected

Answer is: b)

14). Which among the following is the best conductor of electricity?

- a) Silver
- b) Copper
- c) Gold
- d) Lead

Answer is: a)

15). Which among the following order of decreasing wavelengths of electromagnetic waves is correct?

I. Radio waves    II. Infrared rays    III. Visible Light    IV. X-Rays

- a) II, I, IV, III
- b) I, III, II, IV
- c) I, II, III, I
- d) IV, III, II, I

Answer is: c)

16).Ampere-hour is the unit of which among the following?

- a) Power
- b) Energy
- c) Intensity of current
- d) Amount of charge

Answer is: d)

17).Who discovered X-Rays?

- a) Madam Curie
- b) Einstein
- c) Roentgen
- d) J. J. Thomson

Answer is: c)

18).Which among the following are primary colors?

- a) Red, Green, Blue
- b) Blue, Yellow, Green
- c) Red, Magenta, Yellow
- d) Yellow, Violet, Blue

Answer is: a)

19).At what temperature will the density of water be maximum?

- a)  $0^{\circ}\text{C}$
- b)  $32^{\circ}\text{C}$
- c)  $-4^{\circ}\text{C}$
- d)  $4^{\circ}\text{C}$

Answer is: d)

20).Persistence of vision is the principle behind?

- a) Camera
- b) spectroscope
- c) Cinema
- d) Periscope

Answer is: c)

21).Which metal is commonly used for making an electromagnet?

- a) Copper
- b) Iron
  
- c) Nickel
- d) Cobalt

Answer is: b)

22).Light from the laser is

- a) Monochromatic
- b) Composite
- c) Dispersed light
- d) Incoherent

Answer is: a)

23).Choke is used to

- a) Reduce the current in AC circuit
- b) Reduce the current in DC circuit
- c) Convert AC to DC
- d) Convert DC to AC

Answer is: a)

24).In a standing wave the distance between a node and adjacent antinode is .

- a)  $3\lambda / 2$
- b)  $\lambda / 2$
- c)  $\lambda / 4$
- d)  $3\lambda / 4$

Answer is: c)

25).A telescope and microscope differ in that .

- a) Both are different instruments
- b) Telescope's eyepiece with longer focal lengths than the objective
- c) Telescope has objective of large focal length and eyepiece of smaller focal lengths
- d) None of these

Answer is: c)

26).The weight of a body is .

- a) The same everywhere on the surface of the earth
- b) Maximum at the poles
- c) Maximum at the equator
- d) More on the hills than in the plains

Answer is: b)

27).At what temperature a body will not radiate any heat energy?

- a)  $0^\circ \text{C}$
- b)  $273^\circ$
- c)  $100^\circ \text{C}$
- d)  $-273^\circ \text{C}$

Answer is: d)

28).Electromagnetic spectrum consists of the following radiations-

- I. X-rays
- II. Gamma rays
- III. Ultraviolet radiations
- IV. Infrared radiations

Choose the correct order of code in the increasing order of their frequency:

- a) I, III, II, IV
- b) II, I, III,IV
- c) IV, III, I, II
- d) IV, II, III, I

Answer is: c)

29).Only one part of moon can be seen from earth because .

- a) Only one part reflects light
- b) It does not rotate
- c) The period of rotation and revolution are equal
- d) None of these

Answer is: c)

30).Parsec is a unit of .

- a) Pressure
- b) Astronomical distance
- c) Time
- d) Energy

Answer is: b)



31).In which among the following is alternating current not used?

- a) Refrigeration
- b) Heat production
- c) Electroplating
- d) Radio detection

Answer is: c)

32).Blisters are formed more rapidly by the steam of boiling water in comparison to boiling water itself because

- a) Temperature of the steam is higher
- b) Steam enters the body pores rapidly
- c) Steam is a gas and rapidly covers the body
- d) Steam has latent heat

Answer is: d)

33).An ice cube is floating on the surface of water: How will the water level be affected by melting of this ice cube?

- a) Water level will be raised
- b) Water level will go down
- c) Water level will remain the same
- d) Water level will first rise up then it will go down

Answer is: c)

34).What will be the effect on gravitational acceleration if the earth suddenly stops its rotation?

- a) It will reduce at the poles
- b) It will increase at the poles
- c) It will decrease at the equator
- d) It will increase at the equator

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Answer is: b)

35). Ohmic conductor among the following is

- a) Transistor
- b) Thermal value
- c) Electrolyte
- d) Constantum

Answer is: d)

36). One Kilo Calorie heat will be equal to

- a) 4.2 joule
- b)  $4.2 \times 10^2$  Joule
- c)  $4.2 \times 10^3$  Joule
- d)  $4.2 \times 10^4$  Joule

Answer is: c)

37). Ball pen works on the principle of

- a) Viscosity
- b) Boyle's Law
- c) Gravitational force
- d) Capillarity and surface tension

Answer is: d)

38). The apparatus used in submarines to give clear view of the objects on the surface of the ocean or ground is known as

- a) Periscope
- b) sextant
- c) stereoscope
- d) telescope

Answer is: a)

39).Growth of the baby in the uterus is found using

- a) X-rays
- b) Gamma rays
- c) Ultra sound
- d) Ultra Violet rays

Answer is: c)

40).The form of matter are

- a) 3
- b) 4
- c) 5
- d) 7

Answer is: a)

41).The centre of the Newton's rings pattern is dark since

- a) The light undergoes a phase change  $\pi$
- b) The glass plate plano-convex lens
- c) The light undergoes a phase change  $2\pi$
- d) The light undergoes a phase change  $\pi/2$

Answer is: a

42).If a red-green flag is seen in green light it appears to be of which of the following colour?

- a) Green
- b) Black
- c) Black - Green
- d) Red - Black

Answer is: c)

43).A moving electric charge produces

- a) Only electric field
- b) Only Magnetic field
- c) Both electric and magnetic field
- d) Either electric or a magnetic field

Answer is: c)

44).Which among the following order of decreasing wavelengths of electromagnetic waves are correct?

- I. Radio waves
- II. Infrared rays
- III. Visible light
- IV. X-rays

Choose the answer from the following code:

- a) II, I, IV, III
- b) I, III, II, IV
- c) I, II, III, IV
- d) IV, III, II, I

Answer is: c)

45).Which among the following is the surface to surface missile that is made in India?

- a) Dharti
- b) Akash
- c) Prithivi
- d) Naag

Answer is: c)

46).Lightning conductors are made up of

- a) Iron
- b) Aluminium
- c) Copper
- d) Steel

Answer is: c)

47).The I.C Chip used in a computer is made up of

- a) Silicon
- b) Chromium
- c) Gold
- d) Lead

Answer is: a)

48).Which planet is nearest to the earth?

- a) Mercury
- b) Jupiter
- c) Venus
- d) Mars

Answer is: d)

49). Which among the following quantities is scalar?

- a) Velocity
- b) Acceleration
- c) Work
- d) Force

Answer is: a)

50). Nichrome wire is used in an electric heater because

- a) It has high resistance
- b) It has high melting point
- c) It can resist a current upto approx 5 amperes
- d) For all of the above reasons

Answer is: d)