X – Physics $(1,2,3,4,5,6)$ **Marks – 70**

I Coose the correct answer   **20×1=20**

1) One kg force equals to

(a) 9.8 dyne   (b)9.8×10^4N   (c) 98×10^4dyne   (d) 980 dyne

2) To produce a displacement …….. is required

(a) 980 N   (b) motion   (c) force   (d) gravitation

3) The unit of weight is ………

(a)impulse   (b) kgf   (c) newton   (d) both a & b

4) A man of mass 100kg has a weight of ….. at the surface of the earth.

(a) 98N   (b) 980 N   (c) mass   (d) 9.8 dyne

5) A normal human eye can clearly see all the object placed between …..and ……..

(a) 25 cm   (b) power   (c) f = –x   (d) 25 cm & infinity

6) The eye ball is approximately spherical in shape with a diameter of about ……..

(a) 25 cm   (b) 2.5 cm   (c) 23 cm   (d) 2.3 cm

7) …….. Controls amount of light entering into the pupil like camera aperture

(a) Pupil   (b) Retina   (c) Iris   (d) eye lens

8) An ……….. Telescope is used to view heavenly bodies like stars, planets galaxies and satellites.

(a) Travelling   (b) terrestrial   (c) compound   (d) astronomical

9) Power of a lens is –4D, then its focal length is

(a) 4m   (b) –40m   (c) –0.25m   (d) –2.5m

10) the path of the light is called as ……..

(a) infinity   (b) 2f   (c) ray   (d) ratio

11) the value of universal gas constant

(a)3.81 Jmol^{-1}K^{-1} (b) 8.03 Jmol^{-1}K^{-1} (c) 1.38 Jmol^{-1}K^{-1} (d) 8.31 Jmol^{-1}K^{-1}

12) the temperature and heat are …… quantities

   (a) vector   (b) scalar   (c) both a & b   (d) not above

13) the horse power (hp) is a unit food – pound – second the electric power.it is equal to …..

   (a) 1 watt   (b) 10 watt   (c) 100watt (d) 740 watt

14) one way of overcoming the ……. Crisis is to use more LED bulbs

   (a) power   (b) charge   (c) volt   (d) energy

15)SI unit of resistance is

   (a) mho   (b) joule   (c) ohm   (d) ohm meter

16)kilowatt hour is the unit of

   (a) resistivity   (b) conductivity   (c) electrical energy   (d) electrical power

17) acoustical wonder of Golconda fort ………

   (a) Hyderabad   (b) telangana   (c) Chennai   (d) both   a & b

18) if consider the velocity of sound as 344ms $^{-1}$ the minimum distance required to hear an echo is …

   (a) 17m   (b)17.1 cm   (c) 17.2 cm (d) 17.3 cm

19) the energy released in a nuclear fission process is about ……

   (a) 200 MeV   (b) 250MeV   (c) 300MeV   (d) 350MeV

20) Gamma rays are electromagnetic waves consisting of ………

   (a) Electrons   (b) protons   (c) neutron   (d) photons

II Short answers   13×2=26

21) define one roentgen

24) state Soddy and fajan's displacement law.

25) what is a longitudinal wave ?

26) mention two cases in which there is no doppler effect in sound?

28) state ohm's law.

29) define the unit of current?

30) define one calorie.

32) state the law of volume

35) define dispersion of light?

36) what is power of accommodation eye ?

37) differentiate mass and weight.

38) define moment of a couple

40) state of principal of moments.

III   Problems   3×4=12

41) Calculate the velocity of a moving body of mass 5kg whose momentum is 2.5 kg ms^{-1}.

42) A Person with myopia can see objects placed at a distance of 4m. if he wants to see objects at a distance of 20m, what should be the focal length and power of the concave lens he must wear?

43) A torch bulb is rated at 3V And 600Ma. Calculate it's

a) power   b) resistance c) energy consumed used 4hours

44) air temperature in the Rajasthan desert can reach 46'C. What is the velocity of sound in air at that temperature? (V = 331ms^{-1})

45) calculate the amount of energy released when a radioactive substance undergoes fusion and results in a mass defect of 2kg.

IV   Answer in detail   3×4=12

46) give the application of universal law gravitation

47) explain the construction and working of a compound microscope?

48) Derive the idel gas equation?

49) a) state joule's law of heating b) name and define its unit c) what is meant by electric current?

50)what is a nuclear reactor? Explain parts and functions.

…………………… all the best…………….

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