**Sample Question Papers in Engineering Assistants Doordarshan and AIR:**

1. A particle is moving uniformly with an angular velocity ? on the circumference of a circle of  
radius r. The linear velocity will be given by  
(a) r?  
(b)2?r?  
(c) r/?  
(d) ?/r  
Ans:a

2. Line spectrum is obtained from the?  
(a) Sun  
(b) Filament of the bulb  
(c) Mercury lamp  
(d) Burning coal  
Ans:c

3. A moving charge produces:  
(a) neither electric field nor magnetic field  
(b) electro-static field only  
(c) magnetic field only  
(d) both magnetic and electro-static fields  
Ans:c

4. ?, ? and ?rays emitted from a radioactive source are passed through a 0.5 cm. thick aluminum  
sheet. The out going radiations will consist of:  
(a) ?, ? and ?ray  
(b) ? and ?ray  
(c) ?ray  
(d) ?rays  
Ans:b

5. Light year is a unit of  
(a) time  
(b) distance  
(c) velocity  
(d) acceleration  
Ans:b

6. It is easier to draw up wooden block along an inclined plane than bang it up vertically  
principally because:  
(a) the friction is reduced  
(b) only a part of the weight has to be overcome  
(c) the mass becomes smaller  
(d) g becomes smaller  
Ans:b

7. If a piece of ice floating on the surface of water in a beaker melts completely, the level of  
water  
(a) rises  
(b) remains the same  
(c) falls  
(d) initially rises and then falls  
Ans:b

8. A Kelvin thermometer and a Fahrenheit thermometer used to record temperature of melting  
metal, read the same. What will a celcius thermometer read at that temperature?  
(a) 301.25°  
(b) 273°  
(c) 457°  
(d) 760°  
Ans:a

9. A hydrogen-filled balloon expands as it rises and may even burst after rising very high in the  
atmosphere. This happens because:  
(a) the temperature increases with height  
(b) the temperature decreases with height  
(c) the atmospheric pressure increases with height  
(d) the atmospheric pressure decreases with height  
Ans:d

10. if two substances of equal volumes but of different densities are dropped from the same  
height simultaneously, then  
(a) the body of lower density will reach the earth earlier  
(b) both the bodies will reach the earth simultaneously  
(c) The body of higher density will reach earlier  
(d) It depends upon the place  
Ans:b

11. When the bob of a pendulum is at the mean position (minimum displacement) of its motion,  
its total energy is:  
(a) all potential  
(b) zero  
(c) all kinetic  
(d) partly kinetic partly potential

Ans:c  
12. A red and a green pencil are taken in a room illuminated with green light. In the room:  
(a) both pencils will appear dark  
(b) pencils will appear as red and green respectively  
(c) red pencil.will appear dark and green pencil as green  
(d) red pencil will appear red and green pencil dark  
Ans:c

13. The consumption of electrical energy in the household is measured in terms of:  
(a) Kilowatt hour  
(b) Kilowatts  
(c) Joules  
(d) Kilo Joules  
Ans:a

14. A magnet is placed in earth’s magnetic field with north pole of the magnet pointing north. At  
the neutral point:  
(a) the earth’s magnetic field is zero  
(b) the magnet’s magnetic field is zero  
(c) the fields of the magnet and the earth are equal and in the same direction  
(d) the fields of the magnet and the earth are equal and opposite  
Ans:d

15. Sudden fall of a barometer reading indicates:  
(a) storm  
(b) dry weather  
(c) fine weather  
(d) cold weather  
Ans:a

16. If a ball and a rectangular block of different metal when completely immersed in a liquid,  
have the same loss of weight, then  
(a) ball and rectangular block have same density  
(b) ball and rectangular block have Weight in air  
(c) ball and rectangular block have same volume  
(d) ball and rectangular block have immersed to the same depth  
Ans:c

17. If the period of oscillation of a simple pendulum is 4 seconds and we want to convert it into a  
second pendulum, then we have to:  
(a) make the length of the pendulum one fourth of the previous length  
(b) double the length of the pendulum  
(c) make the length of the pendulum half of the previous length  
(d) double the mass of the bob  
Ans:a

18. The escape velocity of a body from the earth depends upon:  
(a) mass of the body  
(b) radius of the earth as well as the value of g  
(c) the radius of the earth only  
(d) volume of the body  
Ans:b

19. A cyclist taking a turn bends inside because:  
(a) he feels pleasure in doing so  
(b) he increases speed in doing so  
(c) he obtains necessary Centripetal force  
(d) he avoids accidents  
Ans:c

20. If the surface of water in a lake is just going to freeze, then the temperature of water at the  
bottom is  
(a) 0°C  
(b) 4°C  
(c) 3°C  
(d) none of these  
Ans:b

21. The tangent law is applicable only when:  
(a) there are at least two magnetic fields  
(b) there two uniform magnetic fields mutually perpendicular to each other  
(c) one strong magnetic field and the other weak magnetic field  
(d) in the present magnetic fields one should be horizontal component of the earth’s magnetic  
field  
Ans:b

22. A moving coil galvanometer is converted into an ammeter by putting:  
(a) a high resistance in parallel  
(b) a low resistance in series  
(c) a low resistance in parallel  
(d) a high resistance in series  
Ans:c

23. Lenz’s law is derived from the law of conservation of:  
(a)momentum  
(b) energy  
(c)charge  
(d) magnetism  
Ans:b

24. On which one of the factors does the sensivity of a galvanometer depend?  
(a) number of the turns of the coil  
(b) the temperature of the room  
(c) the current flowing in it  
(d) the potential difference between the two ends.  
Ans:a

25. The wavelength of X-rays is of the order of:  
(a) 0.1 cm  
(b) 10 2cm  
(c)10 -4cm  
(d)10 -8cm  
Ans:d