**Doordarshan and AIR Question Papers with answers**

**101. Which one of the following physical quantities, is not defined in the terms of force per unit**

area:

(a) pressure

(b) strain

(c) stress

(d) Young’s modulus

Ans:b

**102. The distance moved by a moving body is equal to:**

(a) area between the distance-time graph and distance axis

(b) area between the speed-time graph and time axis

(c) area between the distance-time graph and time axis

(d) area between the speed-time graph and distance axis.

Ans:b

**103. A beaker containing water weighs 100 gm. It is placed on the pan of a balance and a piece**

**of metal weighing 70 gm. and having a volume of 10cc. is placed inside the water in the beaker.**

**The weight of the beaker and the metal would be :**

(a) 170gm.

(c) 100gm.

(b)160gm.

(d)30gm.

Ans:a

**104. For the same kinetic energy, the momentum shall be maximum for:**

(a) electron

(b) proton

(c) deuteron

(d) alpha particle

Ans:d

**105. The common balance works on the principle of equality of:**

(a) forces

(b) moments of forces

(c) masses

(d) masses of pans

Ans:b

***106. A particle moves in a circle of radius R with a constant speed under a centripetal force F.***

***The work done in completing a full circle is:***

(a) 2RF

(b) ?R2F

(c) 2?RF

(d)Zero

Ans:d

**107. When two quantities are plotted on the graph paper against each other and the result so**

**obtained is a st. line, then**

(a) Both the quantities are equal

(b) The quantities are inversely proportional to each other

(c) Sum of both is zero

(d) The quantities are proportional to each other

Ans:d

**108. What is the order of magnitude of 260°?**

(a)103

(b) 104

(c)102

(d) 10

Ans:c

**109. The maximum value of g is:**

(a) At the poles

(b) At the top of the Mount Everest

(c) At the equator

(d) Below the sea level

Ans:a

**110. A fixed volume of gas at 27°C exerts a pressure of 750 mm. If the gas is heated to a**

**pressure of 1500mm., temperature must be:**

(a) 600°C

(b) 327°C

(c) 54°C

(d) 13.5°C

Ans:b

**111. A body of mass 2 kg acted upon by a constant force, travels a distance of 3 metres in the**

**first second and a further distance of meter in the next second. The force acting on the body is?**

(a) 12 Newtons

(b) 8 Newtons

(c) 4 Newtons

(d) 1 Newton

Ans:c

**112. Two forces each equal to P acting at a point have no resultant. The angle between the two**

**forces must be equal to:**

(a)180°

(b) 90°

(c)0°

(d) 120°

Ans:a

**113. A jet engine works on the principle of:**

(a) conservation of energy

(b) conservation of momentum

(c) conservation of mass

(d) conservation of temperature

Ans:b

**114. A sharp knife cuts much better than a blunt one because?**

(a) Area of sharp knife is much less than the area of the blunt one

(b) sharp knife is brighter

(c) sharp knife is colder

(d) sharp knife is costly

Ans:a

**115. A man carries a heavy box on his head on a horizontal plane from one place to another.**

**In this he does?**

(a) maximum work

(b) no work

(c) negative work

(d) minimum work

Ans:b

**116. The bob of a second’s pendulum is replaced by another bob of double mass. The new time**

period will be:

(a) 4 sec.

(c) 2 sec.

(b) 1 sec

(d) 3 sec.

Ans:c

**117.A device for measuring temperatures at a distance is**

(a) gas thermometer

(b) mercury thermometer

(c) radiation

(d) maximum-minimum thermometer

Ans:c

**118. A piece of ice is floating in a concentrated solution of common salt (in water) in a pot.**

**When ice melts completely, the level of solution will:**

(a) go up

(b) remain the same

(c) go down

(d) first go up then go down

Ans:a

**119. A radioactive source has a half-life of 30 days. During a period of 90 days the fraction of**

**atoms that have decayed would be**

(a)100%

(b) 87.5%

(c)64%

(d) 50%

Ans:b

**120. A black body emits:**

(a) radiations of all wavelengths

(b) no radiations

(c) radiations of only one wavelength

(d) radiations of selected wavelengths

Ans:a

**121. A near sighted person cannot see distinctly beyond 50 cm. from his eye. The power in**

**diopter of spectacle lenses which will enable him to see distant objects clearly is**

(a) +50

(b) —50

(c) +2

(d) —2

Ans:c

**122. Size of a nucleus is of the order of?**

(a)10-18m

(b) 10-14m

(c)10-10m

(d) 10-6m

Ans:b

**123. The freezing point on a thermometer is marked as 20° and the boiling point as 150°C. A**

**temperature of 60°C on this thermometer will be read as:**

(a)40°

(b) 65°

(c)98°

(d) 110°

Ans:c

**124. In isothermal expansion of an ideal gas:**

(a) heat content remains constant

(b) temperature remains constant

(c) both heat content and temperature remain constant

(d) pressure and temperature of the gas remain constant

Ans:b

**125. A man standing between two cliffs hears the first echo of a sound after 2 sec. and the**

**second echo 3 sec. after the initial sound. If the speed of sound be 330 m/sec. the distance**

**between the two cliffs should be**

(a)1650 m.

(b)990 m.

(c)825 m

(d) 660 m.

Ans:c