**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