**PHYSICS PAPER 1**

**MARKING SCHEME**

**SECTION A (25 MARKS)**

|  |  |  |
| --- | --- | --- |
|  | Gravitation and acceleration on the earths surface is goods (than) gravitational field strength / intensity…. | 1 mark |
|  | 73-60 = 1.3 cm | 1 mark |
|  | Using the same oil spilled, to measure a known volume / determine where  determine the area of spread of the measured volume (on the same or determine the thickens size / height / diameter of the molecule of uses a known diameter (documented) water (sample) | 3 marks |
|  | The tube will be very long since water has much lower density than mercury | 1 mark |
|  | Milk particles move to occupy the spaces between the water particles through diffusion or diffusion occurs | 2 mark |
|  | Brass contracts more than in a hence contracts leaving the side with invar longer hence the curve / different rate of extension , therefore brass contracts were different .. expand.. | marks |
|  | Volume of water displaced = 0.5 x 0.5 x 0.5  =0.125m  w of w. = weight displaced  (a floating body)  mass = 1 x 125000g  w=mg 1 mk  m= sv or W  =125  125 x 10  1.25 x 103N |  |
|  | C:\Documents and Settings\user\Desktop\New Folder\1.jpg  i)A should not start from origin and  D-Not touching the x-axis and lower level than A and  B- at a point of maximum tension  IV) A and C at the same level |  |
|  | a)  C:\Documents and Settings\user\Desktop\New Folder\3.jpg  b)Air) above the ball moves faster than air below  assure above the ball is lower than pressure below the ball  pressure difference causes the list | 1 mark |
|  | Boyle’s law | 1 mark |
|  | C:\Documents and Settings\user\Desktop\New Folder\4.jpg  Drawing the two diagonals  Joining the points of investigation of the diagonals and changes bar bisector the line  NB; IF students change the change for the loves rectangle deny mk for diagonal | 1 mark |
|  | C:\Documents and Settings\user\Desktop\New Folder\2.jpg | 1 mark |
|  | Making the bulb / larger / wider / bigger  making the bore narrower / thinner | 2 marks |
|  | **SECTION B (55 MARKS)** |  |
|  | Boiling takes place at fixed temperature while evaporation takes at all temperature  boiling takes place in the entire liquid while evaporation takes place at the surface  deceasing atmospheric pressure insects rate of integration while of inters the polling point | 2 marks  3 marks |
| b | Presence of a vacuum  poor conductor material used to make stopper / work / rubber / plastic / world  use of glass (poor conductor) | 3 marks |
| c | i)Heat lost by steam at 1000C  MLV = 5.0 x 10-3 x 2.26 x 106  =11.3 x 104  1.13 x 105J  ii)Heat lost by hot water to cool to O0C  Q=MC Q = Q=MC  Mc = 5.0 X 10 -3 X 4.2 X 103 X 102  =2.1 x 104J  Amount of ice melted at 00C  heat lost = heat occurred  heat gained by ice = het lost by steam + heat lost by boiling water  MLr = Mlv + Mc  M= 2.1 x 104 + 1.13 x 105  3.34 x 105  = 0.401 kg  =401 g  0.4012 kg  401.2 g | 2 marks  2 marks  3 marks |
| 15a | A body remains in the state of rest or uniform motion in a straight line unless acted upon by an unbalanced | 1 marks |
| b | i)Slope =  =  = 6.25  ii) = slope  k =  =  K= 0.3125  iii)K would reduce since friction has reduced | 3 marks  2 marks  2 marks |
| c | Hmax =  =  = = 45 m  accept without | 3 marks |
| 16a | (I)Power = Work done  Time  80000  4  II) d = Work  Force  80000  20000  =4M  III)Efficiency = Workout put x 100% power output x 1000%  Work in put Power input  20000 x 100  2500  =80,00%  ii)Mechanical energy heat and sound | 2 marks  2 marks  2 marks  2 marks |
|  | C:\Documents and Settings\user\Desktop\New Folder\3 001.jpg | 1 mark |
| 17a) | Pressure applied at one part in a liquid is transmitted equally to all other parts of the enclosed liquid | 1 marks |
| b | i)Liquid X is denser since it rises to a smaller height ie the atmospheric pressure supports a lower height of X than Y.  ii)h=  = 12.22 cm  iii)  d= 1.6 p |  |
|  | (i)  C:\Documents and Settings\user\Desktop\New Folder\5.jpg  ii)The flushing of a toilet or  hospital drip system  automatic flashing tank  transferring liquid fuel form veli….tank to a lower container  flush irrigation using a tube  cistern  Filling tube with water / expelling air form tube  inserts the tube in the upper container and directing at into the lower container |  |
| 18a) | Mass  temperature | 2 marks |
| b | i)The gas / air is less dense than the water / optimal on bubble is greater than the weight of the bulb  ii)As it rises the pressure around the bubble reduced (and ) since the temperature is the same ,the volume increases | 1 mark  1 mark |
| c) | The size where of the molecules is assumed to be negligible  Intermolecular forces are also assumed to be negligible  real gases can never have zero volume not also preserve yet the gas laws assume presence of zero volume  ash authisms are perfectly elastic  time collision is neglible compared to time between the collusions | 2 marks |
| d | i)The pressure law  has ability to measure the temperature and the pressure while keeping the volume constant  ii)Source of heating for the temperature to be changed  source of cooling / flaws / heat water bath | 2 marks  1 mark |
|  | V1 = V2  T1 T2  500 = 300  70 T2  T2= 300 x 90  500  50k  RV 1 = P2V2 ; P1 = P2 = P.  T1 T2 | 3 marks |