

## ECAT Physics Chapter 6 Fluid Dynamics

| Sr | Questions                                                                                                                           | Answers Choice                                                                                                                                                                       |
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| 1  | The application of Bernoulli's equation is                                                                                          | A. Torricelli's theorem<br>B. Venture relation<br>C. Binomial theorem<br>D. Both a and b                                                                                             |
| 2  | The _____ viscous the medium is _____, is the value of terminal velocity of the droplet:                                            | A. More, lesser<br>B. Lesser, more<br>C. Both A and B<br>D. Lesser, lesser                                                                                                           |
| 3  | Stoke;s law is not applicable when the speed of the object moving through a fluid is:                                               | A. Zero<br>B. Small<br>C. Large<br>D. None of these                                                                                                                                  |
| 4  | Substances that flow easily have                                                                                                    | A. large coefficient of viscosity<br>B. small coefficient of viscosity<br>C. either of them<br>D. none of them                                                                       |
| 5  | At low speeds, the drag force is                                                                                                    | A. proportional to speed<br>B. inversely proportional to speed<br>C. not simply proportional to speed<br>D. none of them                                                             |
| 6  | Bernoulli's equation is based upon law of conversation of                                                                           | A. mass<br>B. momentum<br>C. Energy<br>D. None                                                                                                                                       |
| 7  | Rate of flow can be expressed in                                                                                                    | A. litre/sec<br>B. litre-sec<br>C. sec/litre<br>D. sec/litre-m                                                                                                                       |
| 8  | Glycerin has viscosity _____ the viscosity of water:                                                                                | A. More than<br>B. Equal to<br>C. Less than<br>D. None of these                                                                                                                      |
| 9  | How much force is required to slide one layer of the liquid over the other layer is measured by                                     | A. friction<br>B. density<br>C. viscosity<br>D. resistivity                                                                                                                          |
| 10 | In a container having water filled up to a height h, a hole is made in the bottom. The velocity of water flowing out of the hole is | A. Independent of h<br>B. Proportional to $h^{1/2}$<br>C. Proportional to h<br>D. Proportional to $h^{2/3}$                                                                          |
| 11 | The SI unit of viscosity is                                                                                                         | A. $\text{kg m}^{-1}\text{s}^{-1}$<br>B. $\text{kg ms}^{-1}$<br>C. $\text{kg m}^{-1}\text{s}^{-2}$<br>D. $\text{kg m}^{-1}\text{s}$                                                  |
| 12 | Fire fighters have a jet attached to the head of their water pipes in order to head of their water pipes in order to                | A. Increase the mass of water flowing per second<br>B. Avoid wastage of water<br>C. Increase the velocity of water flowing out<br>D. Increase the volume of water flowing per second |
| 13 | The unit of viscosity is SI system is:                                                                                              | A. $\text{Kg}^{-1}\text{m sec}^{-1}$<br>B. $\text{Kgm}^{-1}\text{sec}^{-1}$<br>C. $\text{Kg}^{-1}\text{m}^{-1}\text{sec}$<br>D. None of these                                        |
| 14 | In deriving the Bernoulli's equation, we assume that the fluid is                                                                   | A. incompressible<br>B. no viscous<br>C. flows in a steady manner<br>D. " " "                                                                                                        |

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|    |                                                                                                                                                                                                    | D. all of them                                                                                                                                                          |
| 15 | The effect of friction between different layers of a flowing fluid is described in terms of                                                                                                        | A. motion of fluid<br>B. nature of fluid<br>C. colour of fluid<br>D. viscosity of fluid                                                                                 |
| 16 | The drag force acting on a spherical droplet of radius $10^{-5}\text{m}$ moving with a velocity of 1 cm/sec in a fluid of viscosity $5.31 \times 10^{-7}\text{m/sec}$ . The units comes out to be: | A. $10^{-16}\text{N}$<br>B. $10^{-14}\text{N}$<br>C. $10^{-12}\text{N}$<br>D. $10^{-10}\text{N}$                                                                        |
| 17 | The internal pressure of the blood is                                                                                                                                                              | A. less than the external atmospheric pressure<br>B. greater than the external atmospheric pressure<br>C. equal to the external atmospheric pressure<br>D. none of them |
| 18 | The value of viscosity of a fluid is dependent on (at constant temperature)                                                                                                                        | A. the fluid itself<br>B. the fluid and its container<br>C. anything in contact with the fluid<br>D. all of the above                                                   |
| 19 | Blood has a density                                                                                                                                                                                | A. Equal to water<br>B. Greater than water<br>C. Lesser than water<br>D. None of these                                                                                  |
| 20 | The equation of continuity is                                                                                                                                                                      | A. $A_1 A_2 = V_1 V_2$<br>B. $A_1 V_1 = A_2 V_2$<br>C. $V_1 = V_2$<br>D. $A_1 V_1 = A_2 V_2$                                                                            |