Physics ECAT Pre Engineering Chapter 6 Fluid Dynamics Online Test

Sr	Questions	Answers Choice
1	Blood pressure is measured by the instrument	A. stethoscope B. sphygmomanometer C. barometer D. none of them
2	During the free fall motion of an object, when its weight becomes equal to the drag force, then it will move with	A. maximum speed B. zero speed C. maximum speed D. none of them
3	When there is no internal frictional forces between the adjacent layers of fluid, then the fluid is called	A. incompressible B. compressible C. viscous D. non viscous
4	Stock's law holds for:	A. Motion through free space B. Motion through viscous medium C. Bodies of all shapes D. None of these
5	Fluid A is more viscous than fluid B. While flowing through a pipe of the same dimensions and material which fluid takes longer to travel at 25°C?	A. fluid B B. fluid A C. both take the same time D. not possible to determine from given information
6	The _____ viscous the medium is _____, is the value of terminal velocity of the droplet:	A. More, lesser B. Lesser, more C. Both A and B D. Lesser, lesser
7	The velocity of falling raindrop attains limited value because of	A. Up trust of air B. Viscous force exerted by air C. Surface tension effect D. Air currents atmosphere
8	A body is moving through a viscous medium eventually comes to rest because of:	A. Force of gravity B. Force of friction C. Its weight D. Both A and C
9	Blood vessels can be stretch like rubber, therefore they are	A. rigid B. hard C. very thick D. not rigid
10	The maximum drag force on a falling sphere is 9.8 N, it weight is	A. 1 N B. 9.8 N C. 4.9 N D. Cannot be calculated
11	Blood pressure is measured in torr. Which of the following units could belong to torr?	A. N m⁻¹ B. N m⁻² C. N m D. N⁻¹m⁻²
12	The study of fluid in motion basically involves law of conservation of:	A. Mass B. Energy C. Change D. Both A and C E. Both A and B
13	The smooth or steady streamline flow is known as	A. laminar flow B. turbulent flow C. both of them D. none of them
14	The irregular and unsteady flow of the fluid is called	A. turbulent flow B. steady flow C. either of them D. both of them
		A. The blood pressure increase at high altitudes B. The percentage of oxygen in the air

15	At high altitude the blood oozes out of the nose and ear because	increase C. The atmospheric pressure decrease there D. The density of blood decrease at high altitudes
16	The property of fluids due to which they resist their own flow is called:	A. Drag force B. Surface tension C. Viscosity D. None of these
17	A container has a small hole in the bottom. Air can go through this hole,but water cannot. This can be best explained by the statement that	A. water contains hydrogen atoms, air does not B. water molecules are smaller than molecules in the air C. water molecules are smaller than molecules in the air D. surface tension of the water prevents it from
18	If every particle of the flow that passes a particular point, moves along the same path as followed by particles which passed the point earlier, then this flow is said to be	A. turbulent B. streamline C. abrupt D. none of them
19	Glycerin has viscosity _____ the viscosity of water:	A. More than B. Equal to C. Less than D. None of these
20	Viscosity is defined as	A. the friction between fluid and its container's walls B. the internal friction between two layers of fluid C. the resistance to flow a fluid experiences D. the extent to which outside factors effect the fluid's flow
21	The electrical forces between the molecules of a liquid are	A. Repulsive B. Attractive C. Both A and B D. None
22	Which of the following is a characteristic of an ideal fluid?	A. it is non-viscous B. it is incompressible C. it's motion is steady D. all of the above
23	Fluids resist force, This property is called	A. Stiffness B. Strength C. Ductility D. Elasticity
24	Which of the following has the greatest coefficient of viscosity?	A. water B. gasoline C. honey D. tar
25	In deriving the Bernoulli's equation, we assume that the fluid is	A. incompressible B. no viscous C. flows in a steady manner D. all of them
26	When the different streamlines cannot cross each other, then this condition is known as	A. continuity condition B. turbulent flow condition C. steady flow condition D. none of them
27	When a water droplet falls through air, the net force on it is	A. Net force = drag force - weight B. Net force = weight - drag force C. Net force = drag force + weight D. Net force = weight + drag force
28	If one of the pipes has a much smaller diameter than the other and are placed horizontally then form both sides of Bernoulli's equation, we can drop the term	A. P B. 1/2 fv² C. pgh D. none of them
29	Terminal velocity is the maximum velocity attained by a spherical droplet when the drag force_____the weight of droplet:	A. Is smaller than B. Is greater than C. Becomes equal to D. None of these
30	Fog droplets are suspended in air when their weight is balanced by:	A. Force of gravity B. Upward trust due to air C. Surface tension D. None of these

31	The law of conservation of mass gives us the	A. equation of continuity B. Bernoulli's theorem C. both of them D. none of them
32	A tube tapers from 20 cm diameter to 2 cm, the velocity at first cross-section is 50 ms^{-1}then velocity at second cross-section is	A. 5000 cms⁻¹ B. 500 cms⁻¹ C. 50 cms⁻¹ D. 0.5 cm/s
33	The unit of viscosity is SI system is:	A. Kg⁻¹m sec⁻¹ B. Kgm⁻¹ sec⁻¹ C. Kg⁻¹m⁻¹ sec D. None of these
34	A water hose with an internal diameter of 20 mm at the outlet discharges 30 kg of water in 60 s. What is water speed at the outlet if density of water is 1000 kg/m^3during its steady flow	A. 1.3 m/s B. 1.6 m/s C. 1.9 m/s D. 2.2 m/s
35	The SI unit of viscosity is	A. kg m⁻¹s⁻¹ B. kg ms⁻¹ C. kg m⁻¹s⁻² D. kg m⁻¹s
36	The resistance offered by a fluid to a solid moving inside it is called:	A. Drag force B. Surface force C. Viscosity D. None of these
37	The pressure will change in the pipe, as the fluid moves through that pipe of varying	A. cross-section B. height C. none of them D. both of them
38	During the steady flow, different streamlines	A. cannot across each other B. can across each other C. either of them D. neither of them
39	According to Stoke's law, drag force depends on	A. Initial velocity B. Final velocity C. Terminal velocity D. Instantaneous velocity
40	A flowing liquid possess	A. K.E B. P.E C. Pressure Energy D. All
41	The effect of friction between different layers of a flowing fluid is described in terms of	A. motion of fluid B. nature of fluid C. colour of fluid D. viscosity of fluid
42	When the droplet moves with terminal velocity in a fluid, the net force acting on the droplet is:	A. F_D-mg B. Zero C. mg-F_D D. None of these
43	The un-steady streamline flow is called	A. laminar flow B. turbulent flow C. both of them D. none of them
44	According to the Bernoulli's theorem the pressure velocity are	A. equal to each other B. proportional to each other C. inversely proportional to each other D. none of them
45	When each particle of the fluid moves along a smoth path, this path is known as	A. straight path B. smooth path C. haphazard path D. steamline
46	The terminal velocity of water droplet of radius 1 x 10^{-4}m and desity 1000 kg m^{-3}descending through air of viscosity 19 x 10^{-6}kg. m^{-1} s^{-1} is	A. 2.5 ms⁻¹ B. 3.2 ms⁻¹ C. 4.3 ms⁻¹ D. 1.1 ms⁻¹
47	In the case of an incompressible fluid in stead flow the net rate of flow of mass entering one end of the tube of flow is equal to the net rate of flow of mass leaving the other end. This equation is called	A. Quadratic equation B. Equation of discontinuity C. Equation of continuity D. None of the above

48	Ball pen functions on the principle of	A. Viscosity B. Boyle's law C. Gravitational force D. Surface tnesion
49	In case of streamed lined flow of liquid, the loss of energy is	A. Maximum B. Minimum C. Infinite D. equal to what is in turbulent flow
50	What are the SI base units of the coefficient of viscosity	A. Kg m s⁻² B. kgm² s⁻² C. Kg m s⁻¹ D. kg m⁻¹s⁻¹
51	The flow of an ideal fluid is	A. streamline flow B. incompressible flow C. non-viscous D. all of the above
52	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 B. Avoid wastage of water C. Increase the velocity of water flowing out D. Increase the volume of water flowing per second
53	The value for systolic blood pressure for a normal healthy person is	A. 140 torr B. 80 torr C. 90 torr D. 120 torr
54	The fluid is incompressible, if itsdensity is	A. zero B. constant C. very high D. very small
55	If the flow is incompressible and the flow is steady then the mass of the fluid through the pipe	A. increases B. decreases C. becomes zero D. is conserved
56	In a _____ flow, each particle of the fluid is called a streamline and different streamlines _____cross each other.	A. Streamline, cannot B. Turbulent, cannot C. Streamline, can D. None of these
57	A device used to measure the speed of liquid flow is known as	A. barometer B. speedometer C. sphygmomanometer D. venture-meter
58	Which of the following options states the names of fluids in the order of increasing viscosity?	A. mercury, motor oil, methanol B. methanol, mercury, motor oil C. motor oil, mercury, methanol D. methanol, motor oil, mercury
59	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 B. Proportional to h^{1/2} C. Proportional to h D. Proportional to h²
60	When weight of an object falling freely becomes equal to the drag force, then the body will move with	A. increasing speed B. decreasing speed C. constant speed D. none of them
61	Under normal circumstances, the volume of blood is sufficient to keep the vessels	A. flatted for all times B. inflated for all times C. inflated for small times D. none of them
62	How much force is required to slide one layer of the liquid over the other layer is measured by	A. friction B. density C. viscosity D. resistivity
63	The mass of fluid passing through any cross-section per unit time is called	A. electric flux B. magnetic flux C. mass flux D. none of them
64	Which of the following options correctly states the equation of continuity for an ideal fluid?	A. A₁A₂= V₁V₂ B. A₁/A₂= V₂/V₁ C. A₁/A₂= V₁/V₂

		D. none of the above
65	If water rises 4 cm in a long, thin tube because of capillary action, then, under corresponding conditions of use, the rise (in the tube) of a liquid whose density is 2 g/cm^2will be	A. 1 cm B. 2 cm C. 8 cm D. None
66	A high concentration of red blood cells increases its viscosity from	A. 3 - 5 times that of mercury B. 5 - 8 times that of mercury C. 3 - 5 times that of water D. 5 - 8 times that of water
67	At high speed, fluid friction _____ and fuel consumption ___,:	A. Increases, decreases B. Increases, increases C. Decreases, increases D. None of these
68	Drag force increases if speed of the object moving through the fluid:	A. Increases B. Decreases C. Remains constant D. None of these
69	In a normal healthy person the value of diastolic pressure is	A. 75 - 80 torr B. 100 torr C. 120 torr D. none of them
70	Density of fluid is defined as:	A. Its volume to mass ratio B. Product of volume and mass C. Its mass of volume ratio D. None of these
71	When the speed of a body in a fluid increases then the drag force	A. decreases B. becomes zero C. increases D. non of them
72	Stoke;s law is not applicable when the speed of the object moving through a fluid is:	A. Zero B. Small C. Large D. None of these
73	According to the Bernoulli's equation, where the speed of the fluid is high, the pressure will be	A. low B. zero C. high D. all of them
74	The equation of continuity $A_1V_1= A_2V_2$is for the flow of	A. an ideal fluid B. an incompressible fluid C. a non visconcous fluid D. all of the above
75	The product of cross-sectional area of the pipe and the fluid speed at any pint along the pipe is	A. very high B. very low C. constant D. zero
76	The direction of the streamlines is the same as the direction of the	A. force B. torque C. velocity D. weight
77	The density of blood is nearly equal to that of	A. mercury B. sodium C. water D. honey
78	With increase of temperature, the viscosity of liquid and gases	A. Increases for both B. Decreases for both C. Increases for liquids and decreases for gases D. Decreases for liquids and increases for gases
79	The term Brownian movement refers to	A. irregular motions of small particles suspended in a fluid B. convection currents in a liquid or gas C. convection currents in a gas but not in a liquid D. the stretching of a body beyond its elastic limit
80	The instrument which detects the instant at which external pressure becomes equal to the systolic pressure is	A. stethoscope B. thermometer C. manometer D. barometer
		A. Equal to water

81	Blood has a density	B. Greater then water C. Lesser then water D. None of these
82	The blood pressure of a person	A. decrease with age B. increase with age C. has no effect with age D. none of them
83	Bernoulli's equation is based upon law of conversation	A. Mass B. Momentum C. Energy D. None of these
84	Deep water almost runs still when surface water flow in rivers. What does it explains	A. Magnus effect B. Equation of continuity C. Surface energy D. Bernoulli's equation
85	A tube is tapered from 20 cm diameter to 2 cm diameter, the velocity at the first cross-section is 50 cm/s, then the velocity at the second cross-section is	A. 50 m/s B. 20 m/s C. 40 cm/s D. 5 cm/s
86	The analysis of fluid motion becomes simplified by using	A. law of conservation B. law of conservation of energy C. both of them D. none of them
87	A body is floating in a liquid. The up thrust on the body is	A. Equal to weight of liquid displaced B. Zero C. Less than the weight of liquid displaced D. Weight of body-weight of liquid displaced
88	With the increase of temperature viscosity	A. Increase B. Decrease C. Remains same D. Doubles
89	Two water pipes of diameters 4 cm and 8 cm are connected with a supply line. The velocity of flow of water in the pipe 4 cm diameter is	A. 1/4 times B. 4 times C. Twice D. 1/2 of 8 cm diameter pipe
90	Bernoulli's equation is based upon law of conservation	A. Mass B. Momentum C. Energy D. None of these
91	0.10 cm can be written as:	A. 1.0 x 10⁻²m B. 1.0 x 10⁻³cm C. 1.0 x 10⁻⁴cm D. 1. x 10⁻⁴m
92	The value of viscosity of a fluid is dependent on (at constant temperature)	A. the fluid itself B. the fluid and its container C. anything in contact with the fluid D. all of the above
93	If v is the velocity of flow of liquid through a tube of area of cross-section A, then according to equation of continuity	A. v/A = constant B. A/v = constant C. Av = constant D. None
94	Liquids and gasses have	A. zero viscosity B. non-zero viscosity C. very large viscosity D. very small viscosity
95	The density of water is $10^3 kg/m^3$. The water pressure on a submarine is $2.0 \times 10^7 N/m^2$. The depth of the submarine below the surface of the water, in maters, is approximately	A. 200 m B. 11000 m C. 2000 m D. 8000 m
96	At the starting point of the free fall motion of an object, its acceleration will be	A. maximum B. minimum C. zero D. none of them
97	The pressure will be low where the speed of the fluid is	A. Zero B. High C. Low D. Constant
98	In a surface tension experiment with a capillary tube water rises up to 0.1 m. if the same experiment is repeated on an artificial satellite, which is resolving around the earth, water will rise in the capillary tube up to a height of	A. 0.1 m B. 0.2 m C. 0.98 m

	will rise in the capillary tube up to a height of	D. Full length of the capillary tube
99	Where the streamlines are very close to each other, the pressure will be	A. low B. zero C. high D. all of them
100	The product of cross-sectional area of the pipe and the fluid speed at any point along the pipe is called	A. constant rate B. volume rate C. flow rate D. steady rate
101	According to slok's law, drag force depends on	A. Radius of the spherical body B. Terminal velocity of body C. Coefficient of viscosity D. All of above
102	Bernoulli's equation is applicable for	A. turbulent flow B. streamline flow C. both (a) and (b) D. all kinds of flows
103	When a water droplet falling freely through air, the drag force on water droplet increases with th	A. decrease in speed B. increase in speed C. pressure D. none of them
104	What is another name for laminar flow?	A. streamline B. unsteady flow C. turbulent flow D. both (a) and (b)
105	When the upward drag force of the fluid becomes equal to downward force of gravity of the droplet, then its velocity:	A. Starts increasing B. Starts decreasing C. Becomes constant D. Is called escape velocity
106	Pressure exerted by a gas on the walls of its container in due to	A. adhesion between the gas molecules and the container B. cohesion between the gas molecules and the container C. collision between the gas molecules and the container D. surface tension of the gas
107	Fluid friction is _____ the friction between two solid surfaces:	A. Greater than B. Smaller than C. Equal to D. None of these
108	N s $m^{-2}$is unit of:	A. Drag force B. Pressure C. Surface tension D. Coefficient of viscosity
109	Above a certain velocity of a fluid is called	A. turbulent flow B. steady flow C. either of them D. both of them
110	The smooth or steady stream-line flow is know as	A. Laminar flow B. Turbulent flow C. Both a and b D. None of the above
111	Blood is an	A. Compressible fluid B. incompressible fluid C. hard D. none of them
112	Bernoulli's equation is based upon law of conversation of	A. mass B. momentum C. Energy D. None
113	Substances that do not flow easily have	A. large coefficient of viscosity B. small coefficient of viscosity C. either of them D. none of them
114	The force exerted by the fluid in a hydraulic pump on the piston is 10 cm^2, the fluid pressure on the piston is, in N/cm^2	A. 20 B. 200 C. 2000 D. 20,000
115	High speed meteors rushing through air reduces to ashes because of:	A. Force of gravity B. High resistance of air C. Drag force D. None of these

		D. None of these
116	The velocity gained by the fluid in falling through the distance (h_1 - h2) under the action of gravity is equal to the speed of the action of gravity is equal to the speed of the	A. orifices B. efflux C. fluid D. none of them
117	Internal friction of fluid is called	A. Surface tension B. Viscosity C. Resistance D. Cohesive force
118	The drag force acting on a spherical droplet of radius 10^{-5}m moving with a velocity of 1 cm/sec in a fluid of velocity 5.31 x 10^{-7}m/sec. The units comes out to be:	A. 10⁻¹⁶N B. 10⁻¹⁴N C. 10⁻¹²N D. 10⁻¹⁰N
119	An object moving through a fluid experiences a retarding force called a	A. frictional force B. terminal force C. opposing force D. drag force
120	Rate of flow can be expressed in	A. litre/sec B. litre-sec C. sec/litre D. sec/litre-m
121	Surface tension of water is reduced by adding	A. Detergents B. Camphor C. Plastic D. Both A and B
122	Matter is made up of very tiny particles called	A. Atoms B. Molecules C. Ions D. None of these
123	A fluid at a certain point has 50 J of potential energy per unit volume, 75 J of kinetic energy per unit volume,and 35 J of pressure energy per unit volume. the total energy of the fluid is	A. 125 J B. 90 J C. 160 J D. 85 J
124	The application of Bernoulli's equation is	A. Torricelli's theorem B. Venture relation C. Binomial theorem D. Both a and b
125	The law of conservation of energy gives us	A. equation of continuity B. Bernoulli's theorem C. both of them D. none of them
126	The internal pressure of the blood is	A. less than the external atmospheric pressure B. greater than the external atmospheric pressure C. equal to the external atmosphericpressure D. none of them
127	When the velocity of a liquid flowing steadily in a tube increases, its pressure?	A. Decreases B. Increases C. Remains same D. Zero
128	The fluid which is incompressible and non viscous is called	A. Ideal fluid B. Non-ideal fluid C. Prefect fluid D. All
129	The velocity of falling raindrops attains limited value because of	A. Up thrust of air B. Air currents of the earth atmosphere C. Surface tension effect D. Viscous force exerted by air
130	The terminal velocity of a small size spherical body of radius R moving in a fluid varies as	A. R B. R² C. 1/R D. (1/R)²
131	Fluids have three types of energies. The Bernoulli's equation combines those energies.which of the following is one of the three enrgies possessed by a fluid?	A. potential energy B. pressure energy C. strain energy D. (a) and (b) only
132	Two copper balls of 1 cm and 2 cm in diameter are simultaneously dropped in the same viscous medium. The terminal velocity of bigger ball is:	A. Not affected due to its size B. Twice that of small size ball C. Four times that of small size ball

		D. 1/4th of that of small size ball
133	In Bernoulli's theorem the relation between velocity and pressure is	A. Inverse B. Direct C. None of the above D. Both a and b
134	In a normal healthy person the value of systolic pressure is	A. 75 torr B. 80 torr C. 120 torr D. all of them
135	Machine parts are jammed due to:	A. Increasing in viscosity of lubricant B. Decreasing in viscosity of lubricant C. Decreasing in surface tension of lubricant D. None of these
136	Viscosity of water is _____ that of air but ___ that of plasma.	A. More, more B. Less, more C. Less, less D. More, less
137	Bernoulli's equation is important in the field of	A. Electrical circuit B. Magnetism C. Photoelectric effect D. Flow of fluids
138	A person standing near the track of a fast moving train has tendency to fall towards it because of	A. Vibration due to motion of train B. Gravitation force of attraction between person and trains C. The high speed of train D. Some other effect
139	One torr is equal to	A. 13.33 N/m² B. 760 N/m² C. 760 mm Hg D. 133.3 N/m²
140	A massive object falls through a fluid:	A. Faster B. Slower C. Slowest D. None
141	The rain drop falling from the sky reach the ground with	A. Constant terminal velocity B. Constant gravitational acceleration C. Variable acceleration D. acceleration greater than g
142	The body will move with terminal velocity when it acquires	A. minimum speed B. zero speed C. maximum speed D. none of them
143	Where the streamlines are very far apart from each other, the pressure will be	A. low B. zero C. high D. all of them
144	The body passing a viscous medium affected by:	A. One force only B. Two forces only C. Four forces D. None of these
145	The dimensions of viscosity are:	A. M²L⁻¹T⁻² B. M⁻¹L¹T⁻¹ C. M⁻¹L⁻¹T D. ML⁻¹T⁻¹
146	According to the equation of continuity, when water falls from the tap, it's speed increases and its cross-sectional area	A. decreases B. increases C. becomes zero D. none of them
147	Substances that flow easily have	A. large coefficient of viscosity B. small coefficient of viscosity C. either of them D. none of them
148	At low speeds, the drag force is	A. proportional to speed B. inversely proportional to speed C. not simply proportional to speed D. none of them
		A. A₁A_{2 = V} ₁V₂

149	The equation of continuity is	B. A_{1/}_V _{1 = }A_{2/}V₂ C. _V _{1/}A_{1= }V_{2/}A₂ D. A₁_V _{1 = }A₂V₂
150	Fire fighters have jet attached to the head of their water pipes in order to	A. Increase the mass of water flowing per second B. Increase the velocity of water flowing out C. Increase the volume of water flowing per second D. Avoid wastage of water
151	Surface tension of water is due to	A. Inter molecular attractions B. Inter molecular spaces C. Inter molecular repulsion D. None of above
152	When a fluid is in motion, its flow can be considered as	A. turbulent B. streamline C. either or them D. neither of them
153	Unit of viscosity is:	A. Kg m⁻¹sec⁻¹ B. N s m⁻² C. J s m⁻³ D. All of these
154	Bernoulli's equation is the fundamental equation in fluid dynamics, which relates pressure to fluid	A. speed B. height C. none of them D. both of them