Objective questions on MET-02

1) Hydraulics is the branch of science that deals with study of.....

2) The ideal liquid is one which does not present..... in displacement of its particle.
3) A liquid is a nearly..... that conforms to the.....of its container.

4) A liquid is defined as fluid matter having .....but a fixed.....

5) The density of a liquid is affected by change in
A). Temperature. B). pressure
C). Quality D). None of these

6) The formula of density is ρ=

7) The formula for Specific weight is w=

8) The relation between Specific weight and density is w=

9) The formula of Specific Volume is v=

10) Water in a pure state has a..... pH. As a result, pure water is neither ..... nor basic.

11) Water is a universal .....

12) Fresh water has a maximum density at around.....

13) The relation between Depth and pressure in a fluid is p=.

14) As per Pascal- The pressure at any point in the fluid is .....in all directions.

15) What is the principal cause of action of buoyant force on a body submerged partially or fully in fluid?
A. Displacement of fluid due to submerged body
B. Development of force due to dynamic action
C. Internal shear forces mitigating external forces
D. None of the mentioned

16) How can relatively denser object be made to float on the less dense fluid?
A. By altering the shape.
B. By altering the forces acting on the object
C. By altering the shear forces acting on the object
D. None of the mentioned

17) What happens to the buoyant force acting on the airship as it rises in the air?
   A. Buoyant force increases
   B. Buoyant force decreases
   C. Buoyant force remains constant
   D. Buoyant force first increases then shows decrease

18) The aircraft fly based on which principle _____
   A. Newton's third law
   B. Conservation of mass
   C. Bernoulli's principle
   D. Gravity

19) Bernoulli's equation is applicable only for _____
   A. Irrotational flow
   B. Viscous flow
   C. Inviscid, incompressible flow
   D. Compressible flow

20) When is orifice called 'large orifice'?
   A. If the head of liquid is less than 5 times the depth of orifice
   B. If the head of liquid is less than 2.5 times the depth of orifice
   C. If the head of liquid is less Hence, 4 times the depth of orifice
   D. If the head of liquid is less than 1.5 times the depth of orifice

21) In case of submerged orifice the discharge is substantially dependent on temperature of fluid
   A. True
   B. False

22) The rate at which fluid flows through a closed pipe can be determined by
   A. Determining the mass flow rate
   B. Determining the volume flow rate
   C. Either (a) or (b)
   D. None of these

23) The device which is used for making temporary measurements of flow is
   A. Venturi
   B. Dull flow tube
   C. Orifice plate
   D. Pitot static tube

24) When the fluid is at the rest the shear stress is
   A. Zero
   B. 1
   C. Either (a) or (b)
   D. None of these

25) The force exerted by a static fluid on a vertical ,horizontal or an inclined plane immersed surface will be
A. Zero
B. 1
C. Either (a) or (b)
D. Equal

26) Centre of pressure is defined as the point of application of the
A. Resultant pressure
B. Total pressure
C. Zero pressure
D.None of the above

27) The upward force exerted by a liquid on a body is immersed in the liquid is known as

28) The point through which force of buoyancy is supposed to act is called .....

29) The point about which a body starts oscillating when the body is tilted is known as meta-centre

30) If the fluid characterstics like velocity,pressure ,density etc.do not change at a point with respect to time,the fluid flow is called .....

31) If the fluid characteristics like velocity,pressure ,density etc. change at a point with respect to time, the fluid flow is called .....

32) If the Reynolds number in a pipe is less than 2000,the flow is said to be .....

33) If the Reynolds number in a pipe is more than 4000,the flow is said to be .....

34) Continuity equation is written as .....

35) Pitot tube is used to find ..... of a flowing fluid at any point in a pipe or a channel.

36) Orifice is a ..... opening on the side or at the bottom of a tank.

37) Mouth piece is a short length of pipe which is two or three times its diameter in .....

38) Orifice is used for measuring the rate of
A. flow of liquid
B. Density of liquid
C. total pressure on liquid
D. None of the above

39) Average value of Coefficient of discharge Cd is
A. 0.65
B. 0.70
C. 0.80
D. 1.0

40) Average value of Coefficient of velocity Cv is
A. 0.65
B. 0.97
C. 0.80
D. 1.0

41) Average value of Coefficient of contraction Cc is
A. 0.64
B. 0.70
C. 0.80
D. 1.0

42) Average value of Coefficient of resistance Cr is
A. 0.063
B. 0.70
C. 0.80
D. 1.0

43) Minimum cross section area of a jet will be at
A. Bottom
B. Middle
C. Vena Contracta
D. none of these.

44) Machine that extract energy from fluid stream is called Turbine.
A. True
B. False

46. A one dimensional flow is one which
A. is uniform flow
B. is steady uniform flow
C. Takes place in straight lines.
D. Involves zero transverse component flow.

47. In hydraulic turbine the working fluid is
A. Water
B. Steam
C. May be water or steam
D. none of these.

48. General classification of hydraulic turbines are
A. Impulse & reaction
B. Only Impulse
C. Only turbine
D. none of these.

49. Pelton wheel is a
A. Impulse & reaction turbine
B. Impulse turbine
C. Reaction turbine
D. none of these.

50. Pelton wheel is driven by
A. Multiple jets
B. Single jet
C. Three jets
D. none of these.

51. Francis Turbine is a
A. Impulse & reaction turbine
B. Impulse turbine
C. Reaction turbine
D. none of these.

52. In Francis Turbine water enters
A. Circumferentially
B. In centre
C. Directly
D. none of these.

53. Kaplan Turbine is a
A. Impulse & reaction turbine
B. Impulse turbine
C. Reaction turbine
D. none of these.

54. Turbines are used for converting hydraulic energy into Mechanical energy
A. True
B. False

55. Pelton turbine is chosen when operating head is more than
A. 300 m
B. 600 m
C. 500 m
D. none of these

56. Reciprocating pump is a
A. negative displacement pump
B. positive displacement pump
C. Both of above
D. none of these

57. Reciprocating pumps operate by drawing water in chamber.
A. True
B. False

58. The cylinder of Reciprocating pump is made of
A. Cast iron
B. Wrought iron
C. Aluminium
D. Copper

59. Reciprocating pump is also called
A. Speed pump
B. mass pump
C. Heat pump
D. Force pump

60. Power operated pump in which only one side engages the fluid displacement is called
A. Single Acting
B. Double Acting
C. Both
D. None of these.

61. An up and down back and forth relative linear motion is called
A. Rotation
B. Reciprocation
C. Both
D. None of these.

62. Hydraulic turbine converts the potential energy of water into
A. kinetic energy
B. heat Energy
C. Thermal energy
D. None of these

63. Impulse turbine requires
A. High head and low discharge
B. High head and high discharge
C. Low head and low discharge
D. Low head and high discharge

64. Reaction turbine requires
A. High head and low discharge
B. High head and high discharge
C. Low head and low discharge
D. Low head and high discharge

65. In reaction turbines, the runner utilizes
A. Kinetic energy
B. Potential energy
C. Both kinetic energy and potential energy
D. none of these

66. The main function of nozzle is to
A. Varying temperature.
B. Pressure Variation
C. Load Variation
D. heat Variation

67. The main function of centrifugal pumps are to
A. Transfer speed
B. Transfer pressure
C. Transfer temperature
D. Transfer energy

68.Centrifugal pumps transfer energy from
A. Rotor to fluid
B. Fluid to rotor
C. Draft to rotor
D. Rotor to draft

69. Which among the following control the flow rate?
A. Valve
B. Pump
C. Head
D. Tank pipe

70. The inlet passage of water entry is controlled by
A. Head race
B. Gate
C. Tail race
D. Pump

71. Centrifugal pumps are used to transport
A. Pressure
B. Speed
C. Power
D. Fluid

72. The property by virtue of which a liquid opposes relative motion between its different layers is called
A. Surface Tension
B. Viscosity
C. Adhesion
D. Cohesion

73. When a body is placed over a liquid, it will sink down if
A. Gravitational force is equal to the up-thrust of the liquid
B. Gravitational force is less than the up-thrust of the liquid
C. Gravitational force is more than the up-thrust of the liquid
D. None of these.

74. In order that flow takes place between two points in a pipeline, the differential pressure between these points must be more than
A. Frictional force
B. Viscosity
C. Surface Tension
D. All of the above