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1. The dynamic viscosity of most of the gases _____ with rise in temperature.
(A) Increases (B) Decreases
(C) Does not change significantly (D) None of these

2. Buoyant force is _____.
(A) Resultant of up thrust and gravity forces acting on the body
(B) Resultant force on the body due to the fluid surrounding it
(C) Equal to the volume of liquid displaced by the body
(D) Resultant of static weight of body and dynamic thrust of liquid

3. The type of flow in which the velocity of every particle varies from point to point, or every instant, in direction and magnitude is called as :
(A) Laminar flow (B) Uniform flow
(C) Steady flow (D) Turbulent flow

4. The point in the immersed body through which the resultant pressure of liquid may be taken to act is known as :
(A) Centre of buoyancy (B) Metacentre
(C) Centre of gravity (D) Centre of pressure

5. The condition at which a piezometer cannot be used :
(A) Velocity is high (B) Pressure difference is low
(C) Fluid is highly viscous (D) Fluid in the pipe is a gas

6. _____ changes with coefficient of discharge of an orifice.
(A) Reynold's number (B) Weber number
(C) Froude number (D) Mach number

7. Bernoulli's equation cannot be applied when the flow is :
(A) Unsteady (B) Rotational
(C) Turbulent (D) All of the above

8. A body is placed inside a tank. If one meter water column is present above the object, what will be the pressure acting upon it ?
 (A) 1 Pa (B) 9810 Pa (C) 981 Pa (D) 98.1 Pa
9. Which among the flowing possesses highest density ?
 (A) Carbon tetrachloride (B) Air
 (C) Glycerin (D) Castor oil
10. _____ is a regular shaped opening on one side of the liquid vessel provided for quantity measurement, with the liquid surface kept below the top edge of it.
 (A) Orifice (B) Weir
 (C) Notch (D) None of these
11. The discharge through right angled notch, if the c_d is 0.6, will be _____.
 (A) $4.171 H^{5/2}$ (B) $1.417 H^{5/2}$ (C) $0.417 H^{5/2}$ (D) $7.141 H^{5/2}$
12. The top of weir is known as :
 (A) Sill or crest (B) Orifice
 (C) Nappe or van (D) None of these
13. Mathematically, the theoretical velocity of jet at vena contract is :
 (A) $H\sqrt{2g}$ (B) $2g\sqrt{H}$ (C) $2gH$ (D) $\sqrt{2gH}$
14. The hammer blow effect occurs in pipes due to _____.
 (A) The flow of liquid gradually brought to rest by closing the valve
 (B) The excessive leakage
 (C) Bursting under high pressure of liquid
 (D) Sudden stopping of flow
15. Impulse turbine may be utilized at streams having _____.
 (A) High discharge (B) High head
 (C) Low head (D) Medium head

16. The ratio of quantities of liquid discharged from pump to that passing through impeller at unit time is known as _____.
- (A) Mechanical efficiency (B) Overall efficiency
(C) Volumetric efficiency (D) Manometric efficiency
17. The percentage of power saving may be attained in a single acting reciprocating pump by the installation of an air vessel is :
- (A) 48.8% (B) 78.4% (C) 84.4% (D) 39.2%
18. For the stability of a floating body, under the influence of gravity alone, which of the following is true ?
- (A) Metacenter should be below center of gravity
(B) Metacenter should be above center of gravity
(C) Metacenter and center of gravity must lie on the same horizontal line
(D) Metacenter and center of gravity must lie on the same vertical line
19. The property of material which helps in coining, ornament works and forging is :
- (A) Plasticity (B) Ductility
(C) Elasticity (D) Malleability
20. _____ of the thermosetting plastics can be irreversibly formed into shape, under heat and pressure.
- (A) Some (B) None
(C) All (D) None of these
21. In a reciprocating IC engine, the gudgeon pin forms the link between.
- (A) Piston and big end of connecting rod
(B) Piston and small end of connecting rod
(C) Connecting rod and crank
(D) Big end and small end
22. The ratio of Actual thermal efficiency to the Air standard efficiency gives :
- (A) Mechanical efficiency (B) Actual air standard efficiency
(C) Relative efficiency (D) Theoretical thermal efficiency

23. The efficiency of diesel cycle is same as :
- (A) Otto cycle (B) Stirling cycle
(C) Carnot cycle (D) Ericsson cycle
24. For the same compression ratio and heat input, arrange the efficiencies of various cycles in decreasing order :
- (A) Otto, Dual, Diesel (B) Otto, Diesel, Dual
(C) Diesel, Otto, Dual (D) Dual, Diesel, Otto
25. The major loss in a CI engine is :
- (A) Direct heat loss (B) Friction loss
(C) Pumping loss (D) Loss due to incomplete combustion
26. Advantage of gaseous fuel is that :
- (A) It can be stored easily .
(B) It can mix easily with air
(C) It can displace more air from the engine
(D) All of the above
27. Octane number of iso-octane is :
- (A) 0 (B) 96 (C) 69 (D) 100
28. The lean air mixture is required during :
- (A) Cruising (B) Idling
(C) Starting (D) Accelerating
29. Modern carburetors provide the correct quality of air-fuel mixture during :
- (A) starting (B) idling
(C) cruising (D) all conditions
30. Common rail injection system uses injection pressure of the order :
- (A) 100 - 200 bar (B) 200 - 400 bar (C) 400 - 600 bar (D) 1500 bar

31. A wall of length 4 m, height 3 m and thickness 0.4 m, has the inner wall surface at 140°C and that the outer at 20°C . If the thermal conductivity of wall material is 0.85 W/mK , the temperature at 10 cm from the inner wall is :
- (A) 120°C (B) 90°C (C) 110°C (D) 80°C
32. Convective heat transfer is quantified by :
- (A) Fourier's law (B) Newton's law
(C) Stefan-Boltzmann law (D) Kirchhoff's law
33. For a black body :
- (A) Absorption is maximum (B) Radiation is maximum
(C) Reflection is zero (D) All the above
34. A gray body is a :
- (A) Ordinary body (B) Opaque body (C) Black body (D) White body
35. Select the positive displacement compressor :
- (A) Roots blower (B) Vane blower
(C) Reciprocating compressor (D) All the above
36. When equal and opposite forces applied to a body, tend to elongate it, the stress to produced is called :
- (A) Shear stress (B) Compressive stress
(C) Tensile stress (D) Transverse stress
37. The property of a material by which it can be drawn, due to tension to a smaller section is called :
- (A) Plasticity (B) Ductility (C) Elasticity (D) Malleability
38. Factor of safety is the ratio of :
- (A) Yield stress and working stress
(B) Tensile stress and working stress
(C) Compressive stress and working stress
(D) Bearing stress and yield stress

39. The shape of the bending moment diagram over the length of a beam, carrying a uniformly distributed load is always :
- (A) Linear (B) Parabolic (C) Cubical (D) Circular
40. A beam is said to be of uniform strength, if :
- (A) B.M. is same throughout the beam
(B) Shear stress is same throughout the beam
(C) Deflection is same throughout the beam
(D) Bending stress is same at every section along it's longitudinal axis
41. The ratio of the effective length of a column and minimum radius of gyration of it's cross-sectional area, is known as :
- (A) Buckling factor (B) Slenderness ratio
(C) Crippling factor (D) None of these
42. Struts are load carrying members of a frame structure which are subjected to :
- (A) Axial tension loads (B) Axial compressive loads
(C) Torsional loads (D) Transverse loads
43. The portion of a brick cut across the width is called :
- (A) Closer (B) Half brick (C) Bed (D) Bat
44. A beam is defined as a structural member subjected to :
- (A) Axial loading (B) Transverse loading
(C) Axial and transverse loading (D) None of the above
45. Long column is one :
- (A) Which is more than 3 m long
(B) Whose lateral dimension is less than 25 cm
(C) Which is free at it's top
(D) Which has a ratio of effective length to least lateral dimension more than 15

46. When two plates are placed end to end and are joined by cover plates, the joint is known as :
- (A) Lap joint (B) Butt joint
(C) Chain riveted lap joint (D) Double cover butt joint
47. The gross diameter of a rivet is the diameter of :
- (A) Cold rivet measured before driving
(B) Rivet measured after driving
(C) Rivet hole
(D) None of the above
48. Side welds carry :
- (A) Shear stresses only (B) Tensile stresses only
(C) Both shear and tensile stresses (D) None of the above
49. An imaginary line along which rivets are placed is known as :
- (A) Rivet line (B) Gauge line
(C) Back line (D) All of the above
50. Which one of the following is the mode of failure in fillet weld material ?
- (A) Tension (B) Shear (C) Bearing (D) Crushing
51. Sandstone is :
- (A) Sedimentary rock (B) Metamorphic rock
(C) Igneous rock (D) Volcanic rock
52. Laterite is :
- (A) Volcanic rock (B) Argillaceous rock
(C) Calcareous rock (D) Silicious rock
53. The hardest rock is :
- (A) Marble (B) Diamond (C) Talc (D) Quartz
54. The minimum compressive strength of a 1st class brick should be :
- (A) 75 kg/cm² (B) 90 kg/cm² (C) 100 kg/cm² (D) 120 kg/cm²

55. For one cubic meter of brick masonry, number of bricks required is :
(A) 400 (B) 425 (C) 450 (D) 500
56. The commonly used lime in white washing is :
(A) White lime (B) Fat lime
(C) Hydraulic lime (D) Quick lime
57. Good quality cement contains higher percentage of :
(A) Tri-calcium silicate (B) Di-calcium silicate
(C) Tri-calcium aluminate (D) Tetra-calcium alumina ferrite
58. Soundness test of cement is carried out to determine :
(A) Quantity of free lime (B) Ultimate strength
(C) Durability (D) Initial setting
59. A well seasonal timber may contain moisture up to :
(A) 4% to 6% (B) 6% to 8% (C) 8% to 10% (D) 10% to 12%
60. Veneering means :
(A) Carving out designs on timber planks
(B) Chemically treating timber planks
(C) Thick layer of superior wood glued to inferior wood
(D) Thin layer of superior wood glued to inferior wood
61. Most commonly used solvent in oil paint is :
(A) Petroleum (B) Spirit (C) Coal-tar (D) Turpentine
62. Spirit varnish generally consist of :
(A) Oil, wax and resin (B) Alcohol, wax and turpentine
(C) Pigment and synthetic resin (D) Spirit and shellac
63. The process of proper and accurate measurement of concrete ingredients for uniformity of proportion is known as :
(A) Grading (B) Curing (C) Mixing (D) Batching

64. M_{100} grade of concrete approximates :
(A) 1 : 3 : 6 mix (B) 1 : 1 : 2 mix (C) 1 : 2 : 4 mix (D) 1 : 1 : 5 : 3 mix
65. The stretcher bond is generally used in :
(A) Half brick wall (B) Simple brick wall
(C) $1\frac{1}{2}$ brick wall (D) Arches
66. The type of bond in which every course contains both headers and stretches is called :
(A) English bond (B) Flemish bond
(C) Russian bond (D) Mixed bond
67. Spacing of stirrups in a rectangular beam is :
(A) Kept constant throughout the length
(B) Decreased towards the center of the beam
(C) Increased at the center of the beam
(D) Increased at the ends
68. The distance between the center of adjacent rivets in the same row is called :
(A) Pitch (B) Lap (C) Gauge (D) Staggered pitch
69. A beam is said to be of uniform length, if :
(A) B.M. is same throughout the beam
(B) Shear stress is same throughout the beam
(C) Deflection is same throughout the beam
(D) Bending stress at every section along it's longitudinal axis
70. A bending moment may be defined as :
(A) Arithmetic sum of the moments of all the forces on same side of the section
(B) Arithmetic sum of the forces on either side of the section
(C) Arithmetic sum of the moments of all the forces on either side of the section
(D) None of the above

71. Second generation computers used _____ Technology.
 (A) Integrated Circuits (B) Transistors
 (C) Vacuum Tubes (D) Microprocessor
72. The type of computers used to measure continuous quantities are _____.
 (A) Hybrid Computers (B) Digital Computers
 (C) Analog Computers (D) PCs
73. Which is an example of non-impact printer ?
 (A) Inkjet Printer (B) Dot Matrix Printer
 (C) Daisy Wheel Printer (D) Drum Printer
74. The unit that controls function of CPU is _____.
 (A) Arithmetic Logical Unit (B) Control Unit
 (C) Memory (D) ROM
75. An example of Secondary Storage device is _____.
 (A) Hard Disk (B) ROM (C) RAM (D) PROM
76. Which is an input device ?
 (A) Printer (B) Keyboard
 (C) Plotter (D) None of the above
77. Physical components which constitute a computer is known as :
 (A) Hardware (B) Software (C) Assembler (D) Interpreter
78. The process of loading Operating System into the memory of computer is called :
 (A) Sorting (B) Debugging (C) Merging (D) Booting
79. Example for an operating system is _____.
 (A) COBOL (B) BASIC (C) WINDOWS (D) C++
80. An example of output device is _____.
 (A) Mouse (B) Light Pen (C) Scanner (D) Monitor
81. Who is known as father of gynecology ?
 (A) Christian Bernard (B) Harriet Washington
 (C) James Marion Sims (D) Anarcha Samuel