29/2014

Maximum : 100 marks

Time : 1 hour and 15 minutes

1. Who established the college of Fort William at Calcutta to train young Civil servants?
   (A) Lord Wellesley (B) Lord Canning
   (C) Lord Dalhousie (D) Lord Cornwallis

2. The social Evil 'Sathi' was banned by :
   (A) MaCauly (B) W.W. Hunter
   (C) William Bentinck (D) Hastings

3. Who wrote the literary work 'Darsanamala'?
   (A) Sree Narayana Guru (B) Chattambi Swamikal
   (C) Vagbhadananda (D) V.T. Bhattatiripad

4. The first Indian National Congress meeting was presided over by :
   (A) Dadabhai Naoroji (B) W.C. Bannerjee
   (C) S.N. Bannerjee (D) Aurobindo Ghosh

5. The 18th International Children Film Festival organised by the childrens film society was held at :
   (A) Hyderabad (B) Calcutta
   (C) Mumbai (D) Goa

6. The first sportsman who have been selected for Bharata Ratna Nations highest civilian honour :
   (A) Veerendra Sevag (B) Sachin Tendulkar
   (C) Harbajan Singh (D) Rahul Dravid

7. Who is the Central Forest and Environmental Minister?
   (A) Jayanthy Natarajan (B) P. Chidambaram
   (C) Susheel Kumar Shinde (D) Ananda Sharma

8. The head quarters of ISRO :
   (A) Chennai (B) Bangalore
   (C) Hyderabad (D) Pune

9. New Education Policy was introduced by :

(A) Jawaharlal Nehru (B) Indira Gandhi

(C) Rajeev Gandhi (D) Dr. S. Radhakrishnan

10. Who is the Chairman of planning commission in India?

(A) Finance Minister (B) Prime Minister

(C) President (D) Governor

11. The leader of Payyanur Sathyagraha :

(A) K.B. Menon (B) K. Kelappan

(C) A.K. Gopalan (D) Dr. Palpu

12. 'Athmavidhya Sangam' founded by :

(A) Vagbhatananda (B) Ayyankali

(C) Mannath Padmanabhan (D) Brahmananda Swami

13. The longest South Indian river is :

(A) Krishna (B) Mahanadi

(C) Godavari (D) Narmada

14. Author of 'India in Transition' :

(A) R.P. Dutt (B) R.C. Dutt

(C) M.N. Roy (D) A.R. Desai

15. The largest District in Kerala :

(A) Idukki (B) Malappuram

(C) Palakkad (D) Thiruvanandapuram

16. Gandhiji's first experiment in Satyagraha was :

(A) Kheda Satyagraha (B) Ahamadabad mill strike

(C) Salt Satyagraha (D) Champaran Satyagraha

17. The oldest mountain in India :

(A) Karakoram (B) Neelagiri

(C) Kanchenjunga (D) Aravalli

18. The first Indian woman to win an Olympic medal :

(A) P.T. Usha
(B) K.M. Beenamol
(C) Karnam Malleswari
(D) M.D. Valsamma

19. The place where the revolt of 1857 started :

(A) Arab
(B) Kanpur
(C) Meerut
(D) Lucknow

20. In which year the Kurichiya Revolt started?

(A) 1712
(B) 1812
(C) 1822
(D) 1912

21. A body whose absorptivity does not vary with temperature and wavelength of the incident ray is known as :

(A) A grey body
(B) A black body
(C) A white body
(D) An opaque body

22. Fin efficiency deals with :

(A) Thermal performance
(B) Economical material requirement
(C) Cost of manufacturing
(D) All of these

23. Buoyant force is :

(A) Resultant of upthrust and gravity forces acting on the body
(B) Related to Bernoullis theorem
(C) Resultant of static weight of body and dynamic thrust of fluid
(D) Equal to the volume of liquid displaced by the body

24. Viscosity of water in comparison to mercury is :

(A) Higher
(B) Lower
(C) Same
(D) Unpredictable

25. A control volume refers to :

(A) Closed system
(B) Specified mass
(C) Fixed region in space
(D) Isolated mass

26. The relationship between tool life (T) and cutting speed (V) m/min is given by :

(A) $V^nT = C$ (B) $VT^n = C$

(C) $\frac{V^n}{T} = C$ (D) $\frac{T^n}{V} = C$

27. Device used for holding and grinding the tool in drilling, reaming or tapping operation is :

(A) Jig (B) Fixture

(C) Templates (D) Both (A) and (B)

28. What is the main shaft of an engine that controls the movement of piston?

(A) Axle (B) Drive shaft

(C) Crank shaft (D) Cam shaft

29. A four stroke petrol engine theoretically operates on :

(A) Otto cycle (B) Brayton cycle

(C) Joule cycle (D) Bell Coleman cycle

30. For a Newtonian fluid :

(A) Shear stress is proportional to shear strain

(B) Rate of shear stress is proportional to shear strain

(C) Rate of shear stress is proportional to rate of shear strain

(D) Shear stress is proportional to rate of shear strain

31. An ideal fluid :

(A) Has no viscosity

(B) Statistics the relation PV = RT

(C) Obeys Newtons law of viscosity

(D) Is both incompressible and non viscous

32. In steady flow of a fluid, the acceleration of any fluid particle is :

(A) Constant (B) Variable

(C) Zero (D) One

33. Critical path on a PERT/CPM chart is obtained by joining the events having :

(A) Maximum slack
(B) Minimum slack
(C) Average slack
(D) Zero slack

34. In inventory control, the economic order quantity refers to :

(A) Lowest level to inventory
(B) Lot most economical to process
(C) Optimum lot size
(D) Lot corresponding to break-even point

35. A device used for lifting or lowering objects suspended from a hook at the end of retractable chain or cable is called :

(A) Hoist
(B) Job crane
(C) Portable elevator
(D) Chain conveyor

36. A large Reynold number is indication of :

(A) Smooth and stream line flow
(B) Laminar flow
(C) Steady flow
(D) Highly turbulent flow

37. A material capable of absorbing large amounts of energy is :

(A) Ductile
(B) Tough
(C) Resilient
(D) Hard

38. When both ends of a column are fixed, the effective length is :

(A) Its own length
(B) Twice its length
(C) Half its length
(D) $\frac{1}{\sqrt{2}} \times$ its length

39. Which of the following types of rivetted joint is free from bending stresses?

(A) Lap joint
(B) Butt joint with simple cover plate
(C) Butt joint with double cover plate
(D) All of the above

40. A cold Chisel is made of :

(A) Mild steel
(B) Cast iron
(C) HSS
(D) High carbon steel

41. Kelvin-Plank's law deals with conservation of :

(A) Heat into work
(B) Mass
(C) Heat
(D) Work

42. During refrigeration cycle, heat is rejected by the refrigerant in a :

(A) Compressor
(B) Condenser
(C) Evaporator
(D) Expansion valve

43. Specific heat is least for :

(A) Water
(B) Air
(C) Steam
(D) Ice

44. Bush bearing is made of :

(A) Aluminium bronze
(B) Phosphor bronze
(C) White metal alloy
(D) None of the above

45. If all the variables of a steam are independent of time it is said to be in :

(A) Steady flow
(B) Unsteady flow
(C) Closed flow
(D) Constant flow

46. Material not suitable for impact load :

(A) High carbon steel
(B) Mild steel
(C) High speed steel
(D) Cast iron

47. Coal used in a cupola is :

(A) Charcoal
(B) Pulverized coal
(C) Coke
(D) Cooking coal

48. The rivets are made up of :

(A) Soft material
(B) Ductile Materials
(C) Brittle materials
(D) None of these

49. An eye bolt is generally provided on :

(A) Furnace
(B) Electric motor
(C) Cranes
(D) Machine tools

50. A bench vice is provided with :

(A) Acme thread (B) Butters thread

(C) Vee thread (D) BSW thread

51. The Eulers formulae for columns is valid for :

(A) Large slenderness ratio (B) Zero slenderness ratio

(C) Small slenderness ratio (D) None of the above

52. During sensible cooling process, the relative humidity :

(A) Increases (B) Decreases

(C) Remains same (D) None of the above

53. Helix angle of a spur gear is :

(A) Zero (B) 10°

(C) 45° (D) 30°

54. Blunt tool is used in :

(A) Piercing (B) Knurling

(C) Spinning (D) Gear shaving

55. Continuity equation for an incompressible fluid is :

(A) $A_1V_1 = A_2V_2$ (B) $S_1A_1V_1 = S_2A_2V_2$

(C) $\frac{A_1V_1}{S_1} = \frac{A_2V_2}{S_2}$ (D) $\frac{S_1A_1}{V_1} = \frac{S_1A_1}{V_2}$

56. Flow occurring in a pipeline when a valve is being opened is :

(A) Steady (B) Unsteady

(C) Laminar (D) Vortex

57. Provision of fin on a given heat transfer surface will be more if there are :

(A) Fewer number of thin fins (B) Fewer number of thick fins

(C) Large number of thin fins (D) Large number of thick fins

58. In a psychometric chart vertical line indicate :

(A) Dry bulb temperature (B) Wet bulb temperature

(C) Dew point temperature (D) Relative humidity

59. Investment casting uses pattern made of :

(A) Wood (B) Clay

(C) Metal (D) Wax

60. Consumable electrodes are used in the process :

(A) TIG (B) MIG

(C) Thermit (D) Laser

61. Thermal conductivity in SI units in expressed as :

(A) $J/m^2 K$ (B) W/m^K

(C) W/m K sec (D) W/m^2

62. Integration of CAD and CAM is called :

(A) Computer integrated manufacturing (B) CAE/CAM

(C) Computer Aided Design (D) Computer Assisted Engineering

63. The information about the production schedule is provided by :

(A) SIMO chart (B) Gantt chart

(C) Travel chart (D) String diagram

64. With rise in gas temperature, dynamic viscosity of most of the gases :

(A) Increases (B) Decreases

(C) Does not change significantly (D) None of the above

65. Energy loss in flow through Nozzle as compared to venturymeter is :

(A) More (B) Less

(C) Same (D) Unpredictable

66. Steel having combination of 6.67% carbon and 93.33% iron is called :

(A) Austenite (B) Pearlite

(C) Martensite (D) Cementite

67. Heat is transferred from an electric bulb by :

(A) Conduction (B) Convection

(C) Radiation (D) All of the above

68. If steel is cooled in still air, the structure obtained is:

(A) Pearlite (B) Sorbite

(C) Troosite (D) Acicular

69. The modulus of rigidity is defined as the ratio of :

(A) True stress to true strain

(B) Longitudinal stress to longitudinal strain

(C) Shear stress to shear strain

(D) Twisting moment to cross sectional area

70. Tensile strength of steel is improved by adding :

(A) Chromium (B) Nickel

(C) Lead (D) Silicon

71. Ability of material to resist penetration by another material is known as :

(A) Stiffness (B) Ductility

(C) Plasticity (D) Hardness

72. Babbit metal is :

(A) Copper base alloy (B) Tin base alloy

(C) Cadmium base alloy (D) None of these

73. The Jigs are employed in :

(A) Turning (B) Shaping

(C) Drilling (D) Milling

74. The gears used for non intersecting perpendicular shafts are :

(A) Spur Gear (B) Helical Gear

(C) Hypoid Gear (D) None of these

75. The Eulers formula for columns is valid for :

(A) Large slenderness ratio
(B) Zero slenderness ratio
(C) Small slenderness ratio
(D) None of the above

76. In a flange coupling, the flanges are coupled together by means of :

(A) Studs
(B) Bolts and Nuts
(C) Nail
(D) Rivets

77. Zeroth law of thermodynamics form the basis of ———— measurement.

(A) Pressure
(B) Work
(C) Heat Exchange
(D) Temperature

78. All of the following are intensive properties of a system, except :

(A) Viscosity
(B) Temperature
(C) Potential Energy
(D) Density

79. The minimum number of rings in a piston are :

(A) Two
(B) Three
(C) Four
(D) Six

80. Choose the open thermodynamic system :

(A) Centrifugal pump
(B) Manual Ice cream freezer
(C) Pressure cooker
(D) Automobile storage battery

81. The wet bulb temperature is a measure of :

(A) Absolute humidity
(B) Specific humidity
(C) Relative humidity
(D) Degree of saturation

82. For measuring flow by a venturymeter, it should be installed in :

(A) Vertical Line
(B) Horizontal line
(C) Inclined line with upward flow
(D) In any direction and in any location

83. For the same operating temperature limits the coefficient of performance of a heat pump is :

(A) COP of refrigerator
(B) COP of refrigerator +1
(C) COP of refrigerator –1
(D) Equal to 1

84. The depth of center of pressure in rectangular lamina of height 'h' with one side in the liquid surface is at :

(A) h (B) $\frac{h}{3}$

(C) $\frac{2h}{3}$ (D) $\frac{h}{2}$

85. Identify the refrigerant used for refrigeration purpose passenger air craft :

(A) Freon - 12 (B) Carbondioxide

(C) Sodium Chloride (D) Air

86. The purpose of surge tank in a pipe line is to :

(A) Smoothen the flow of water

(B) Relieve pressure due to water hammer

(C) Prevent occurrence of hydraulic jump

(D) Minimize friction losses in pipe

87. The blade of a power saw is made of :

(A) Boron steel (B) High speed steel

(C) Stainless steel (D) Cast iron

88. Guide ways of lathe beds are hardened by :

(A) Carburising (B) Cyaniding

(C) Nitriding (D) Flame hardening

89. A steel with 0.8% C is called :

(A) Hypo-eutectoid steel (B) Hyper eutectoid steel

(C) Eutectoid steel (D) None of these

90. The mode of deformation of the metal during spinning is :

(A) Bending (B) Stretching

(C) Rolling and stretching (D) Bending and stretching

91. Enlarging an existing circular hole with a rotating single point tool is called :

(A) Boring (B) Drilling

(C) Reaming (D) Internal turning

92. Size of shaper is given :

(A) Stroke length
(B) Motor power
(C) Table size
(D) Weight of the machine

93. A lead-screw with half nuts in a lathe, free to rotate in both directions has :

(A) V threads
(B) ACME threads
(C) Buttress threads
(D) Withworth threads

94. For machining a complex contour on tungsten carbide work piece, which process will be used :

(A) ECM
(B) USM
(C) EDM
(D) EBM

95. T.T.T. diagram indicate time, and temperature transformation of :

(A) Cementite
(B) Pearlite
(C) Ferrite
(D) Austenite

96. All machines and equipments are arranged according to the nature or type of operation is :

(A) Product layout
(B) Process layout
(C) Group layout
(D) Fixed position layout

97. PERT is mainly useful for :

(A) Large projects
(B) Research and development project
(C) Large and complex projects
(D) Any small or large projects

98. Simplex method is the method used in :

(A) Queing theory
(B) PERT/CPM Network
(C) Linear programming
(D) Value analysis

99. Salary of which workforce is charged as indirect labour cost :

(A) Turner
(B) Painter
(C) Store keeper
(D) Fitter

100. Heat transfer takes place according to :

(A) Zeroth law
(B) First law
(C) Second law
(D) Third law