PSC Assistant Engineer - Mechanical - Plantation Corporation Of Kerala Ltd Examination Previous Year Question Paper

Exam Name: *Assistant Engineer - Mechanical - Plantation Corporation Of Kerala Ltd*

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Medium of Questions: English

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Maximum : 100 marks

Time : 1 hour and 15 minutes

1. The study which used to find a simpler, easier and better way of performing a job is known as :
    (A) Motion study
    (B) Time study
    (C) Time and motion study
    (D) None of the above

2. The critical path in PERT is determined on the basis of :
    (A) Maximum float of the each activity motion study
    (B) Minimum float of each activity
    (C) Slack of each event
    (D) All of each above

3. The direct cost required to complete the activity in normal time duration is known as :
    (A) Normal cost   (B) Minimum cost
    (C) Crash cost   (D) None of the above

4. ABC analysis deals with :
    (A) Analysis of process chart   (B) Controlling inventory material
    (C) Flow of material   (D) None of the above

5. Critical path is that sequence of activities between the start and finish :
    (A) Shortest time   (B) Normal time
    (C) Longest time   (D) None of the above

6. If C = original cost, S = scrap value, D = depreciation charges per year and N = number of years of useful life, Then :
    (A) $C=(S-D)/N$ (B) $D=(S-C)/N$
    (C) $S=(D-N)/C$ (D) $D=(C-S)/N$

7. ———— is a scale plan on which movements of an object are traced by lines.
    (A) Process diagram   (B) Block diagram
    (C) Line diagram   (D) Flow diagram

A   3

[P.T.O.]

8. ————— may be defined as the direction and co-ordination of companies resources towards the attainment of its production goals in the most efficient manner.

  (A) Process layout and control
  (B) Financial planning and control
  (C) Production planning and control
  (D) Plant layout and control

9. If the EOQ is 200 numbers and the annual consumption rate of a product is 1000. Then the total number of order / annum will be equal to :

  (A) 5   (B) 4
  (C) 6   (D) 12

10. PERT stands for :
  (A) Planning Evaluation and Recalling Technique
  (B) Programme Evaluation and Review Technique
  (C) Planning Evaluation and Review Technique
  (D) Process Evaluation and Review Technique

11. CPM is the :
  (A) Event oriented technique   (B) Target oriented technique
  (C) Activity oriented technique   (D) Time oriented technique

12. Choose the wrong statement :
  (A) Break even analysis consist of fixed and variable costs
  (B) Break even analysis represents the relationship between cost and volume
  (C) At the break even point, total cost is equal to sales revenue
  (D) If variable cost is less than fixed cost, then break even analysis shows profit

13. The engineering which aims at minimising the cost without change in quality of the product is known as :
  (A) Network engineering   (B) Value engineering
  (C) Product engineering   (D) Quality engineering

14. Which of the following methods are used to solve linear programming problems?
  (A) Simplex method   (B) Graphical method
  (C) Transportation method   (D) All of the above

15. The most important function of inventory control is :
    (A) Technical responsibility for the state of materials
    (B) Stock control
    (C) Effective operation of stores
    (D) All of the above

16. The amount of time by which an activity can be delayed without increasing the completion time of a project is known as :
    (A) Float   (B) Stack
    (C) Dummy   (D) All of the above

17. The temperature at which the new grains are formed in the metal is known as :
    (A) Eutectic temperature   (B) Recrystallisation temperature
    (C) Lower critical temperature   (D) Upper critical temperature

18. Choose the Mechanical property from the following :
    (A) Permeability   (B) Resistivity
    (C) Ductility   (D) Thermal expansion

19. Infinitely repeated fundamental grouping of atoms in a crystal structure is called :
    (A) Crystallisation   (B) Unit cell
    (C) Unit atom   (D) None of the above

20. Eutectoid steel contains carbon :
    (A) Equal to 0.8%   (B) Greater than 0.8%
    (C) Less than 0.8%   (D) Equal to Zero%

21. The Copper - Tin alloys are known as :
    (A) Brass   (B) Bronze
    (C) Bell metal   (D) Soldering Lead

22. Which of the following is a Non-Destructive test?
    (A) Tensile test   (B) Compressive test
    (C) Impact test   (D) X-ray test

23. Which of the joining process is best suited to fabricate pipelines that carries gas products?
    (A) Nuts and Bolts   (B) Rivetting
    (C) Welding   (D) Soldering

A   5   128/2015
                                                                             [P.T.O.]

24. Glass is a ———— Material.
   (A) Elastic   (B) Ductile
   (C) Brittle   (D) Malleable

25. The ability of a solid material to exist in more than one form or crystal structure :
   (A) Polysystem   (B) Polymorphism
   (C) Polymerism   (D) All of the above

26. If the cutting edge of the tool is perpendicular to the direction of tool travel, it is known as :
   (A) Oblique cutting   (B) Three dimensional cutting
   (C) Orthogonal cutting   (D) All of the above

27. During machining cast iron produces :
   (A) Continuous chips   (B) Dis-continuous chips
   (C) Continuous chips with built-up edge   (D) None of the above

28. Tool life is depends on :
   (A) Tool material   (B) Hardness of material
   (C) Type of material being cut   (D) All of the above

29. Lead screw with half nuts in a lathe free to rotate in both directions has :
   (A) Whitworth threads   (B) V-threads
   (C) ACME threads   (D) Buttress threads

30. Twist drill is a :
   (A) End cutting tool   (B) Front cutting tool
   (C) Side cutting tool   (D) None of the above

31. From the following, which term is connected with shaping machine?
   (A) Gear cutting mechanism   (B) Quick return mechanism
   (C) Lead screw mechanism   (D) Half nut mechanism

32. Feed drives in CNC machines is provided by :
   (A) Stepper motors   (B) Induction motors
   (C) Synchronous motors   (D) Servo motors

33. Ratio of weight of a liquid to unit volume is termed as :
   (A) Density   (B) Specific gravity
   (C) Specific weight   (D) Viscosity

34. "Whenever a body is immersed fully or partially in a fluid, the resultant force acting on it is equal to the difference between the upward pressure of the fluid on its bottom and the downward force due to gravity". This is known as :

    (A) Pascal's law   (B) Archimedes principle

    (C) Newton's law   (D) Bernoulli's theorem

35. For a perfect incompressible liquid flowing in continuous stream, the total energy of a particle remains same, while particle moves from position to the other. This statement is known as :

    (A) Bernoulli's principle   (B) Newton's principle

    (C) Pascal's law   (D) Archimedes principle

36. If V_1 and V_2 be the velocities at initial and final sections respectively, then the loss of head due to sudden enlargement in pipe can be determined by :

    (A) $(V_1 - V_2)/2g$ (B) $(V_1 - V_2)^2/g$

    (C) $(V_1^2 - V_2^2)/2g$ (D) $(V_1 - V_2)^2/2g$

37. Absolute pressure is the algebraic sum of :

    (A) Atmospheric pressure and vaccum pressure

    (B) Gauge pressure and vaccum pressure

    (C) Atmospheric pressure and gauge pressure

    (D) None of the above

38. The Darcy-Weisbach equation for loss of head can be expressed mathematically :

    (A) $hf = (4fvl^2)/2gd$ (B) $hf = (4flv^2)/2gd$

    (C) $hf = (4lvf^2)/2gd$ (D) None of the above

39. For a pipe flow, the ratio of inertia force to viscous force is given by :

    (A) Mach number   (B) Prandl number

    (C) Weber number   (D) Reynolds number

40. The head against a centrifugal pump has to work is known as :

    (A) Manometric head   (B) Friction head

    (C) Barometric head   (D) Pressure head

41. Slip is a term associated with :

    (A) Centrifugal pump   (B) Submersible pump

    (C) Reciprocating pump   (D) Jet pump

42. Cavitation will take place if the pressure of the flowing liquid at any point is :
    (A) More than the vapour pressure of the liquid
    (B) Less than the vapour pressure of the liquid
    (C) Equal to the vapour pressure of the liquid
    (D) None of the above

43. Which of the turbine is suitable for "high head and low discharge"?
    (A) Axial flow turbine   (B) Kalpan turbine
    (C) Francis turbine   (D) Pelton turbine

44. If, w = specific weight of water
    a = cross sectional area of a jet and,
    V = velocity of jet, then,
    The force exerted by the jet of water impinging normally on a fixed plate is given by :
    (A) $F = waV^2/g$ (B) $F = waV^2/2g$
    (C) $F = waV/g$ (D) $F = waV/2g$

45. Choose from the following that which term is not connected to a water turbine?
    (A) Mechanical efficiency   (B) Isothermal efficiency
    (C) Hydraulic efficiency   (D) Overall efficiency

46. Manometer is used to measure :
    (A) Velocity of the fluid   (B) Discharge of the fluid
    (C) Density of the fluid   (D) Pressure of the fluid

47. "Stokes" is the unit of :
    (A) Kinematic viscosity   (B) Absolute viscosity
    (C) Absolute pressure   (D) Kinetic energy

48. Pelton wheel turbine is :
    (A) Axial flow impulse turbine
    (B) Inward flow impulse turbine
    (C) Outward flow impulse turbine
    (D) Tangential flow impulse turbine

49. If a material is loaded within elastic limits, the stress produced is proportional to strain. This statement is known as :
    (A) Poisson's law   (B) Hook's law
    (C) Newton's law   (D) Lami's theorem

128/2015   8   A

50. The ratio of direct stress to volumetric strain is known as :

    (A) Bulk modulus   (B) Modulus of rigidity

    (C) Poisson's ratio   (D) Modulus of elasticity

51. A cantilever beam of length 'l' carries a point load 'W' at the free end. The shear force diagram seems to in the shape as :

    (A) A triangle

    (B) Two equal and opposite triangles

    (C) Two equal and opposite rectangles

    (D) A rectangle

52. A uniformly distributed load 'W' Newton's per unit length is carried by a simply supported beam over the whole span 'l'. The shear force at the centre of the beam is :

    (A) Zero   (B) $Wl/2$

    (C) $Wl^2/2$ (D) $Wl/4$

53. The ratio of limiting friction to normal reaction between two bodies :

    (A) Static friction   (B) Dynamic friction

    (C) Coefficient of friction   (D) Limiting friction

54. The strain energy stored in a body due to external loading within elastic limits is known as :

    (A) Resistance   (B) Torsion

    (C) Bending   (D) Resilience

55. If, Ft = tensile stress, P = tensile load applied and A = cross sectional area, choose the correct equation :

    (A) $P = Ft/A$ (B) $P = A/Ft$

    (C) $Ft = P/A$ (D) $Ft = A/P$

56. If, d = diameter of the rivets and t = thickness of the plates to be riveted, the Unwin formula can be expressed as :

    (A) $d = 4\sqrt{t}$ (B) $d = 6\sqrt{t}$

    (C) $d = 8\sqrt{t}$ (D) $d = 2\sqrt{t}$

57. In a shaft or a hole the maximum possible variation in dimension is known as :

    (A) Fit   (B) Limit

    (C) Allowance   (D) Tolerance

58. For a round solid shaft, diameter = d, the moment of inertia is equal to :

    (A) $I = \pi d^4/64$ (B) $I = \pi d^4/32$

    (C) $I = \pi d^4/16$ (D)   None of the above

59. If T_1 and T_2 are the tension at tight and slack sides of a belt in (N) and V = velocity of the belt then power transmitted is equal to :

    (A) $(T_2 - T_1)*V$ (B) $(T_1 - T_2)*V$

    (C) $(T_2 - T_1)/V$ (D)   None of the above

60. If diameter of driver and driven pulley are 10 cm and 20 cm respectively and if, the driver pulley rotates at a speed of 200 rpm, find the speed of driven pulley :

    (A)   100 rpm   (B)   150 rpm

    (C)   200 rpm   (D)   250 rpm

61. In thrust bearings the load acts :

    (A)   Perpendicular to the axis of rotation

    (B)   Parallel to the axis of rotation

    (C)   Along the axis of rotation

    (D)   All of the above

62. The strength of a riveted joint is equal to :

    (A)   Lowest crushing strength of the rivet

    (B)   Lowest shearing strength of the rivet

    (C)   Lowest tearing strength of the plate

    (D)   All of the above

63. For a double threaded screw, choose the correct statement :

    (A)   Lead is twice the pitch   (B)   Pitch is twice the lead

    (C)   Lead is equal to pitch   (D)   Lead is half of the pitch

64. A spring material should have the following properties :

    (A)   High breaking strength   (B)   High yield strength

    (C)   High hardness   (D)   All of the above

65. Kelvin-Planck's statement deals with :

    (A)   Conversion of heat into work   (B)   Conservation of work

    (C)   Conservation of heat   (D)   Conservation of mass

66. In a system, neither mass nor energy is allowed to cross the boundary of the system is known as :

    (A) Isentropic system   (B) Isolated system

    (C) Isothermal system   (D) Closed system

67. Charles law, mathematically defined as :

    (A) $V/t = \text{constant}$ (B) $p \cdot V = \text{constant}$

    (C) $p/t = \text{constant}$ (D) $p \cdot t = \text{constant}$

68. Pascal (Pa) is the unit of :

    (A) Force   (B) Density

    (C) Power   (D) Pressure

69. An adiabatic process is one in which :

    (A) The change in internal energy is equal to work done

    (B) No heat enter or leaves the system

    (C) The temperature of the gas changes

    (D) All of the above

70. Morse test is conducted on a multi-cylinder IC engine is to determine its :

    (A) Mechanical power   (B) Brake power

    (C) Indicated power   (D) Indicated thermal efficiency

71. Capillary tube is used as ————— in refrigeration systems.

    (A) Expansion device   (B) Evaporating device

    (C) Piping device   (D) Defrosting device

72. In a throttling process ————— remain constant.

    (A) Pressure   (B) Entropy

    (C) Enthalpy   (D) Temperature

73. Human comfort is related with :

    (A) Temperature of air   (B) Humidity of air

    (C) Purity of air   (D) All of the above

74. Unit of refrigeration is expressed as :

    (A) Kilo joule   (B) Kilowatt

    (C) TON   (D) Kilopascal

75. Fourier's law of heat transfer is related to :
    (A) Convection   (B) Conduction
    (C) Radiation   (D) Condensation

76. The fluid, which absorbs heat through evaporation and rejects it by condensation is known as :
    (A) Absorbant   (B) Coolant
    (C) Refrigerant   (D) Solvent

77. The devices, which are fitted on a boiler for its safe and smooth operation are known as :
    (A) Boiler mountings   (B) Boiler accessories
    (C) Boiler draught   (D) All of the above

78. In a refrigerating system, the ratio of refrigerating effect to work done is known as :
    (A) Energy Performance Ratio   (B) Coefficient of Performance
    (C) Mechanical Efficiency   (D) Coefficient of Heat Transfer

79. The absolute temperature of water, when boiling at atmospheric pressure can expressed as :
    (A) 373.16 K   (B) 332°F
    (C) 273.16 K   (D) 100°C

80. The branch of engineering science deals with the study of, behavior of dry air and water vapour mixture under various conditions is known as :
    (A) Refrigeration   (B) Psychrometry
    (C) Air conditioning   (D) Air heating

81. The Samadhi of Chattampi Swamigal is at :
    (A) Varkala   (B) Panmana
    (C) Alathoor   (D) Kannammoola

82. "Daivadasakam" is the work of :
    (A) Chattampi Swamigal   (B) Sree Narayana Guru
    (C) Ayyankali   (D) Sankaracharya

83. "Sadhujana Paripalana Yogam" was founded by :
    (A) Sree Narayana Guru   (B) Ayyankali
    (C) Chattampi Swamigal   (D) Brahmananda Sivayogi

84. "Adukkalayil Ninnum Arangathekku" is the drama written by :
    (A) M.R. Bhattathirippad   (B) V.T. Bhattathirippad
    (C) E.M.S. Namboodiripad   (D) N.N. Pillai

85. "Ezhava Memorial" was submitted under the leadership of :
    (A) Sree Narayana Guru   (B) Dr. Palpu
    (C) Kumaran Asan   (D) Sahodaran Ayyappan

86. Who was the recipient of the Jnanapith Award of the year?
    (A) M.T. Vasudevan Nair   (B) U.R. Ananthamoorthy
    (C) Balachandra Nemade   (D) Asapoornadevi

87. Who was the chief guest of the Republic Day celebrations of this year?
    (A) Hosni Mubarakh   (B) Barakh Obama
    (C) Shinso Abe   (D) Rowl Kastro

88. Planning Commission was established in India in the year :
    (A) 1950   (B) 1951
    (C) 1956   (D) 1947

89. The hero of the film "P.K." :
    (A) Kamal Hassan   (B) Ameer Khan
    (C) Mamootty   (D) Rajni Kanth

90. 'Wandering in many Worlds" is the autobiography of :
    (A) B.G. Varghese   (B) Kuldip Nayyar
    (C) V.R. Krishna Iyer   (D) Kailash Satyarthi

91. Five year plans in India was started in the year :
    (A) 1950   (B) 1951
    (C) 1947   (D) 1949

92. The east flowing river in Kerala :
    (A) Kabani   (B) Pumba
    (C) Bharathapuzha   (D) Achancovil

93. Aadhar was started in the year :
    (A)   2009   (B)   2010
    (C)   2008   (D)   2011

94. The first ATM in India was started at :
    (A)   Delhi   (B)   Mumbai
    (C)   Chennai   (D)   Calcutta

95. Salt Satyagraham at Payyannur was under the leadership of :
    (A)   A.K. Gopalan   (B)   K. Kelappan
    (C)   P. Krishna Pillai   (D)   Moidu Moulavi

96. "Keralam Malayalikalude Mathrubhumi" is the book written by :
    (A)   K. Kelappan   (B)   E.M.S. Namboodiripad
    (C)   S. Gupthan Nair   (D)   Madhavan Nair

97. The leader of the 1857 struggle at Delhi :
    (A)   Bahadur Shah   (B)   Nana Saheb
    (C)   Jhansi Rani   (D)   Kunwar Singh

98. The Civil Disobedience Movement was started in the year :
    (A)   1930   (B)   1931
    (C)   1920   (D)   1942

99. "Poorna Swaraj" was declared as the aim of the congress in which session?
    (A)   Lahore   (B)   Madras
    (C)   Calcutta   (D)   Bombay

100. "Delhi Chalo" is the slogan of :
    (A)   Subhash Chandra Bose   (B)   Lal Bahadur Sastri
    (C)   Jawaharlal Nehru   (D)   Rash Behari Bose

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