PSC Foreman - Govt Instrument Workshop - Kerala Small Industries Development Corporation Ltd - Sidco Examination
Previous Year Question Paper

Exam Name: *Foreman - Govt Instrument Workshop - Kerala Small Industries Development Corporation Ltd - Sidco*

Date of Test : 19.08.2015

Question Paper Code: 154/2015

Medium of Questions: English

154/2015

Maximum : 100 marks

Time : 1 hour and 15 minutes

1. In S.I. units Joule is expressed as :
    (A) Nm/s   (B) Nm
    (C) Nm²   (D) mN

2. Modulus of rigidity is experimentally the ratio of :
    (A) Linear stress to longitudinal strain
    (B) Hydrostatic stress to volumetric strain
    (C) Axial stress to lateral strain
    (D) Shear stress to shear strain

3. The definition of Specific fuel consumption is :
    (A) Fuel consumption per BHP   (B) Fuel consumption for hour
    (C) Fuel consumption per hour per BHP   (D) Fuel consumption per IHP

4. The longitudinal (axial) stress for a thin cylinder of mean radius r, wall thickness t and subjected to an internal fluid pressure p, would be :
    (A) pr/4t   (B) 2pr/t
    (C) pr/t   (D) pr/2t

5. The height of water column corresponding to a pressure of 54 KN/m² is :
    (A) 5.5 m   (B) 8.5 m
    (C) 11.0 m   (D) 4.5 m

6. The ratio of the capacity of a compressor to the piston displacement of the compressor is known as :
    (A) Volumetric efficiency   (B) Theoretical horsepower
    (C) Compressor efficiency   (D) Brake horse power

7. The use of cupola is to make :
    (A) Wrought Iron   (B) Pig Iron
    (C) Steel   (D) Cast Iron

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8. The process used in summer air conditioning is known as :

    (A) Humidification   (B) Heating and humidification

    (C) De humidification   (D) Cooling and dehumidification

9. Temperature of human body is 94.2°F. Its corresponding temperature in celsius scale is :

    (A) 73.78°c   (B) 34.56°c

    (C) 371.4°c   (D) 110.67°c

10. In the cast Iron the percentage of carbon usually varies between :

    (A) 0.5 to 1.0%   (B) 0.1 to 0.2%

    (C) 1.0 to 1.5%   (D) 2.5 to 3.5%

11. The ratio of total emissive power of a body to the total emissive power of a black body is called :

    (A) Reflectivity   (B) Absorptivity

    (C) Transmitivity   (D) Emissivity

12. Factor of safety is defined as the ratio of :

    (A) Endurance limit to yield stress   (B) Elastic limit to ultimate stress

    (C) Yield stress to working stress   (D) Breaking stress to working stress

13. A simply supported beam of span (l) carries a uniformly distributed load over the whole span. The shear force diagram will be :

    (A) a rectangle   (B) a triangle

    (C) two equal and opposite triangles   (D) two equal and opposite rectangles

14. When a shaft of diameter d is subjected to torsional load T, the maximum shear stress fs, induced in the shaft is given by the relation :

    (A) $fs = \dfrac{64T}{\pi d^3}$ (B) $\dfrac{16T}{\pi d^3}$

    (C) $fs = \dfrac{8T}{\pi d^3}$ (D) $\dfrac{32T}{\pi d^3}$

15. The torsion equation is given by :

    (A) $T/J = fs/R = C\theta/L$ (B) $T/fs = R/J = C\theta/L$

    (C) $T/R = fs/J = C\theta/L$ (D) $T/J = fs = R = L/C\theta$

16. Sweep patterns are used for :
    (A) Non ferrous castings
    (B) Coreless objects
    (C) Large circular castings
    (D) Tiny objects

17. A steel plate is immersed in an oil of specific weight 8 kN/m³ upto a depth of 3 m. What is the intensity of pressure on the plate due to the oil :
    (A) 24 kN/m²
    (B) 48 kN/m²
    (C) 12 kN/m²
    (D) 56 kN/m²

18. The Elliptic trammels and Oldhams coupling are the inversion of :
    (A) Double slider crank chain
    (B) Single slider crank chain
    (C) Four bar chair
    (D) Crossed slider crank chain

19. The hydraulic gradient line is :
    (A) some times above the energy gradient line
    (B) at velocity head below the energy gradient line
    (C) is always sloping downwards along the flow direction
    (D) is always above the axis of the closed conduct

20. Bar is the unit of :
    (A) Entropy
    (B) Energy
    (C) Power
    (D) Pressure

21. The difference between the upper limit and lower limit of a dimension is known as :
    (A) Nominal size
    (B) Tolerance
    (C) Basic size
    (D) Actual size

22. In a flat belt drive, the belt can be subjected to a maximum tension T and centrifugal tension Tc. The condition for transmission of maximum power is given by :
    (A) $T = 2Tc$
    (B) $T = Tc$
    (C) $T = 3Tc$
    (D) $T = \sqrt{3}\, Tc$

23. A gas whose original pressure, volume and temperature were 120 KN/m², 0.1 m³ and 30°c respectively is compressed to 600 KN/m² and 50°c. The new volume of the gas is :
    (A) 0.0426 m³
    (B) 2.1 m³
    (C) 22.1 m³
    (D) 0.0213 m³

24. The device, which holds and locates a work piece and guides and controls one or more cutting tools, is known as :

    (A) Lathe   (B) Template
    (C) Fixture   (D) Jig

25. Critical temperature of a gas is the temperature :

    (A) above which it cannot be liquefied
    (B) at which its liquefaction just starts
    (C) at which the intermolecular gap is reduced to zero
    (D) at which its liquefaction is complete

26. The process which takes place below recrystallisation temperature is known as :

    (A) Grinding   (B) Hot working process
    (C) Cold working process   (D) Casting

27. Which air standard cycle consists of two isothermal processes and two adiabatic processes?

    (A) Diesel cycle   (B) Ericson cycle
    (C) Otto cycle   (D) Carnot cycle

28. An example of a natural abrasive from the following :

    (A) Diamond   (B) Aluminium oxide
    (C) Boron carbide   (D) Silicon carbide

29. In the mollier diagram the abscissa represents

    (A) Total heat   (B) Entropy
    (C) Temperature   (D) Pressure

30. The tool is stationery and the work reciprocates in case of a :

    (A) Planer   (B) Milling machine
    (C) Shaper   (D) Slotter

31. The use of Fusible plug in a boiler is to :

    (A) Extinguish the fire in case of low water level
    (B) Prevent the leakage of steam from boiler
    (C) Allow passage of only superheated steam from the boiler
    (D) Keep the boiler pressure within prescribed limits

32. Inter cooling in multistage compression reduces
    (A) Index of compression   (B) Volume of free air delivered
    (C) The work input to compressor (D) The pressure of air at delivery

33. The beginning and the end of a task is called :
    (A) An event   (B) An activity
    (C) Slack   (D) Dummy

34. The equivalent quantity of one ton of refrigeration is :
    (A) 5 KW   (B) 3.5 KW
    (C) 2.5 KW   (D) 1 KW

35. Newton's law of viscosity states that :
    (A) Shear stress is directly proportional to the viscosity
    (B) Shear stress is directly proportional to velocity
    (C) Shear stress is directly proportional to velocity gradient
    (D) Shear stress is directly proportional to shear strain

36. The cycle in which the open cycle gas turbine works on :
    (A) Rankine cycle   (B) Carnot cycle
    (C) Brayton cycle   (D) Otto cycle

37. A certain element has a half life of 22 days. Its average life is :
    (A) 31.74 days   (B) 44.13 days
    (C) 11.89 days   (D) 5.56 days

38. Dimetral pitch is defined as the ratio of
    (A) Pitch circle diameter to number of teeth
    (B) Number of teeth to pitch circle diameter
    (C) Circumference of pitch circle to number of teeth
    (D) Number of teeth to the circular pitch

39. The process of increasing thickness of a bar at its expense of its length and is brought by end pressure :
    (A) Drawing down   (B) Upsetting
    (C) Fullering   (D) Punching

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40. The flow in the pipe is laminar if :
    (A) Reynold number is equal to 2,500   (B) Reynold number is equal to 4,000
    (C) Reynold number is more than 2,500   (D) None of the above

41. Venturimeter is used to measure :
    (A) Discharge   (B) Pressure at a point
    (C) Average velocity   (D) Velocity at a point

42. When two bodies are in thermal equilibrium with a third body, they are also in thermal equilibrium with each other. This statement is called :
    (A) Zeroth law of thermodynamics   (B) 2nd law of thermodynamics
    (C) 1st law of thermodynamics   (D) Gaylussac's law

43. The basic law of heat conduction is called :
    (A) Newton's law of cooling   (B) Kirchoff's law
    (C) Fourier's law   (D) Stefan's law

44. A boiler was purchased, erected and installed with an amount of Rs. 52,000/-. The scrap value estimated after 20 years is Rs.15,000/- the rate of depreciation is :
    (A) Rs. 37,000/-   (B) Rs. 1,850/-
    (C) Rs. 2,600/-   (D) Rs. 750/-

45. The ratio of the specific weight of a liquid to specific weight of a standard fluid is known as :
    (A) Specific volume   (B) Weight density
    (C) Specific gravity   (D) Viscosity

46. The centre to centre distance between two consecutive rivets in a row is called :
    (A) Margin   (B) Pitch
    (C) Back pitch   (D) Diagonal pitch

47. Kaplan turbine is :
    (A) a high head mixed flow turbine   (B) an outward flow reaction turbine
    (C) an impulse inward flow turbine   (D) axial flow reaction turbine

48. The position of centre of gravity of a hemisphere of radius 'r' lies on the central radius at a distance :
    (A) 2/3 r   (B) 1/2 r
    (C) 3/4 r   (D) 3/8 r

49. Sinking fund is associated with :
    (A) Period of reduced economic activity   (B) Machine depreciation
    (C) Cost of equity and debt   (D) Machine replacement

50. In electro discharge machining the tool is made of :
    (A) Tungsten carbide   (B) Stain less steel
    (C) Brass or copper   (D) Diamond

51. Lathe centres are provided with a standard taper known as :
    (A) Seller's taper   (B) Chapman taper
    (C) Jarno taper   (D) Morse taper

52. Which of the following is not foundry tool?
    (A) Arbor   (B) Riddle
    (C) Slick   (D) Trowel

53. A system of working known as functional organisation was introduced by :
    (A) Newton   (B) F.W. Taylor
    (C) Gilberth   (D) Gnatt

54. Break-even point is the point where :
    (A) Variable and total cost lines intersect
    (B) Total cost and sales revenue lines intersect
    (C) Fixed and variable cost lines intersect
    (D) Total cost and fixed lines intersect

55. A surface with an area 2×10^{-4} m^2 emits radiation as a black body at a temperature of 1000 K. Stephan Boltzman constant $\sigma = 5.67 \times 10^{-8}$ w/m^2 k^4 what is the energy emitted into the entire hemispherical space :
    (A) 22.68 W   (B) 5.66 W
    (C) 11.34 W   (D) 328 W

56. Air vessel in a reciprocating pump is used :
    (A) to obtain a continues supply of water at uniform rate
    (B) to reduce suction head
    (C) to increase the delivery head
    (D) to reduce the discharge

57. In milling machines the Indexing of the job is done with :
    (A) Differential mechanism   (B) Dividing head
    (C) Face plate   (D) Arbor

58. The dimensional formula of dynamic viscosity are :
    (A) $ML^{-2}T^{-2}$ (B) MLT
    (C) $ML^{-1}T^{-2}$ (D) $ML^{-1}T^{-1}$

59. The purpose of Surge tank in a pipe line is to :
    (A) Make the flow uniform in pipe
    (B) Reduce the loss of head due to friction in pipe
    (C) Relieve the pressure due to water hammer
    (D) Increase the velocity in the pipe

60. Brass is an alloy of copper and :
    (A) Aluminium   (B) Tin
    (C) Zinc   (D) Lead

61. A microprocessor unit, a memory unit and an input / output unit form, a :
    (A) CPU   (B) Compiler
    (C) Microcomputer   (D) ALU

62. An ideal operational amplifier has :
    (A) Infinite output impedance   (B) Zero input impedance
    (C) Infinite Bandwidth   (D) All of the above

63. Which type of signal is represented by discrete values?
    (A) Noisy signal   (B) Non linear
    (C) Digital   (D) Analog

64. The gauge factor of strain gauge is normally of the order of :
    (A) 0.5 to 1   (B) 1 to 1.5
    (C) 1.5 to 21   (D) 5 to 10

65. The logic gate that will have high or "1" at the output when any one at the inputs is high is a (n) :
    (A) OR gate   (B) AND gate
    (C) NOR gate   (D) NOT gate

66. A port can be :
    (A) Strictly for input   (B) Bidirectional
    (C) Strictly for output   (D) All of the above

67. Reynold's number of stream lined flow is :
    (A) Less than 2000   (B) More than 2000
    (C) More than 6000   (D) None of the above

68. Standard pneumatic output of an I/P converter is :
    (A) 3 to 15 kg/cm^2 (B) 3 to 15 mA
    (C) 0.22 to 1 kg/cm^2 (D) 1.5 to 7 kg cm^2

69. For flow measurement of highly corrosive and erosive fluids ———— used.
    (A) Venturi meter   (B) Rotameter
    (C) Magnetic flow meter   (D) Pitot tube

70. Hydraulic controller have ———— power gain.
    (A) Low   (B) Medium
    (C) High   (D) None of the above

71. A 4 – 20 mA electronic transmitter has an input range of 50°c. If the output is 12 mA, What is ———— the indicated temperature in centigrade?
    (A) 10°   (B) 25°
    (C) 30°   (D) 40°

72. ———— is the final control element in most process control system.
    (A) Controller   (B) Control Valve
    (C) Transmitter   (D) Amplifier

73. An Angularity error is in the :
    (A) Energy meter   (B) Watt meter
    (C) BT Pressure gauge   (D) Micrometer

74. Vortex meter transducer is used for :
    (A) Temperature   (B) Pressure
    (C) Level   (D) Flow

75. The most popular medium for the data highway for DCS Communication is :
    (A)   Internet   (B)   Web
    (C)   Ethernet   (D)   Modem

76. In closed - loop control system, the input has control over :
    (A)   Open loop   (B)   Output
    (C)   Feed – back   (D)   Set point

77. Full form of HART is :
    (A)   Highway Accessable Range Transmitter
    (B)   Highway Addressable Remote Transmitter
    (C)   Highway Accessable Remote Transducer
    (D)   Highway Addressable Range Transmitter

78. When the pressure of water increases, its volume?
    (A)   Increases   (B)   Not change
    (C)   Decreases   (D)   None of the above

79. Instrument air of ———————— dew point is more suitable for pneumatic instrumentation.
    (A)   32°   (B)   25°
    (C)   4°   (D)   40°

80. If proportional band is less, controller response will be :
    (A)   Low   (B)   Medium
    (C)   High   (D)   Infinite

81. Kollam era of Kerala was started in :
    (A)   78 A.D   (B)   825 A.D
    (C)   248 A.D   (D)   606 A.D

82. Modern postal system in India was established by :
    (A)   Lord Clive   (B)   Lord Curzon
    (C)   Lord Dalhousie   (D)   Lord Cornwallis

83. Which of the following has won the under – 20 FIFA World cup in 2013?
    (A)   Spain   (B)   Uruguay
    (C)   Italy   (D)   France

84. As per the census of India 2011, which is the density of population?

    (A)   392   (B)   348

    (C)   382   (D)   325

85. "Vazhapalli Inscription" is the earliest epigraphical record of ———————— to be discovered from Kerala.

    (A)   Chera King   (B)   Chola King

    (C)   Pandya King   (D)   Pallava King

86. What is the language of Sangam Literature?

    (A)   Sanskrit   (B)   Prakrit

    (C)   Pali   (D)   Tamil

87. The travancore ruler who abolished slave trade (Forced Labour) :

    (A)   Gouri Parvati Bhai   (B)   Gouri Lakshmi Bhai

    (C)   Setu Lakshmi Bhai   (D)   Rani Gangadhara Lakshmi

88. The 45th Dada Saheb Phalke Award Winner :

    (A)   Pran   (B)   Soumitra Chatterjee

    (C)   Gulzar   (D)   Mrinal Sen

89. Who was the president of India on June 25th, 1975?

    (A)   Zail Singh   (B)   V.V. Giri

    (C)   Fakhruddin Ali Ahmed   (D)   Neekm Reddy

90. Who is known as the 'Father of Kerala – Renaissance'?

    (A)   Sree Narayana Guru   (B)   Chattampi Swamikal

    (C)   Ayyankali   (D)   Brahmananda Swami Sivayogi

91. The Portuguese built their first fort on Indian soil in the territory of the Raja of :

    (A)   Bijapur   (B)   Calicut

    (C)   Daman   (D)   Cochin

92. 'Wagan Tradgedy' was in connection with :

    (A)   Pazhassi revolt   (B)   Santhal rebellion

    (C)   Malabar rebellion   (D)   Kurichiya revolt

93. World Worker's day was observed on :
    (A) June – 1   (B) May – 1
    (C) October – 1   (D) December – 1

94. Which is considered as the second largest river basin of India?
    (A) Narmada   (B) Godavari
    (C) Ganga   (D) Cauvery

95. The Accidental Prime Minister : Making and unmaking of Man Mohan Singh : Was written by :
    (A) Ravuri Bharadwaja   (B) Shashi Tharoor
    (C) Narendra Kholi   (D) Sanjaya Baru

96. 'Sunda Trench' is the greatest known depth of an ocean. Which among the following it belongs?
    (A) Indian Ocean   (B) Pacific Ocean
    (C) Atlantic Ocean   (D) Arctic Ocean

97. 'Mukundamala' in Sanskrit was written by :
    (A) Tolan   (B) Vasudeva Bhattatiri
    (C) Kulasekhara Alwar   (D) Sankara Narayana

98. Who became the editor of 'Yuktivadi' magazine in 1928?
    (A) Sahodaran Ayyappan   (B) Blessed Kuriakose – Elias Chavara
    (C) C. Krishnan   (D) A.K. Pillai

99. Which one of the following states of India receives lowest average annual rainfall?
    (A) Odisha   (B) Jammu and Kashmir
    (C) Himachal Pradesh   (D) Madhya Pradesh

100. Where is the headquarters of the Zoological Survey of India (ZSI)?
    (A) Delhi   (B) Madras
    (C) Mumbai   (D) Kolkata

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