PSC Tradesman - Instrument Technology - Technical Education Examination Previous Year Question Paper

Exam Name: Tradesman - Instrument Technology - Technical Education

Date of Test : 07.05.2015

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Medium of Questions: English

87/2015

Maximum : 100 marks

Time : 1 hour and 15 minutes

1. Which among the following is a passive device?
   (A) Transistor (B) Vacuum Tube
   (C) Triac (D) Capacitor

2. Tachometer is used to measure :
   (A) Vibration (B) Acceleration
   (C) Force (D) Angular Velocity

3. The ratio of output change to the input change of the instrument is called :
   (A) Precision (B) Accuracy
   (C) Sensitivity (D) Reproducibility

4. Digital system usually operates on :
   (A) Binary system (B) Octal system
   (C) Decimal system (D) Hexadecimal system

5. The most suitable device used for measuring temperature of furnace is :
   (A) Thermistor (B) Pyrometer
   (C) Thermocouple (D) RTD

6. The purpose of ratchet mechanism in a micrometer is to :
   (A) Maintain uniform measuring pressure
   (B) Lock the dimension
   (C) Avoid wear of screw thread
   (D) Impart Motion

7. Charge amplifiers are used to amplify the output signal of :
   (A) Resistive transducer (B) Capacitive transducer
   (C) Hall effect transducer (D) Inductive transducer

8. Current transformers are used for extending the range of :

(A) Volt meter (B) Energy meter

(C) Pressure coil of wattmeter (D) Ammeter

9. SI Unit of force is :

(A) Newton (B) Kilogram

(C) Gram (D) Milligram

10. The device used for static leveling of machinary is :

(A) Gauge block (B) Snap gauge

(C) Ring guage (D) Sprit level

11. Recorder used to record one variable against another variable is :

(A) Galvanometric recorder (B) X-Y recorder

(C) Strip chart recorder (D) Circular chart recorder

12. Which among the following is a discontinuous mode controller?

(A) Proportional controller (B) Integral controller

(C) ON-OFF controller (D) Derivative controller

13. A photoemissive cell is used to convert intensity of electromagnetic radiation into a change in :

(A) Voltage (B) Resistance

(C) Current (D) Power

14. A pressure to current converter converts pressure signal from 3-15 psi into :

(A) 0-20 mA (B) 0-20 A

(C) 4-20 mA (D) 4-20 A

15. A hair spring attached to the moving system is to produce :

(A) Controlling torque (B) Deflecting torque

(C) Damping torque (D) Balancing torque

16. The span of a voltmeter having a range from –20 to 120 volt is :

(A) 120 V (B) 100 V

(C) –20 V (D) 140 V

17. A Binary number with 4 bits is called :

(A) Byte (B) Nibble

(C) Octal (D) None of the above

18. Vacuum pressure is measured by using :

(A) Bellows pressure gauge (B) Bourdon tube pressure gauge

(C) Strain gauge (D) Pirani guage

19. The equivalent resistance of 2 ohm and 3 ohm resisters when connected in parallel is :

(A) 1.2 ohm (B) 1.5 ohm

(C) 5 ohm (D) 1.66 ohm

20. The Strain gauge which can be detached from the test specimen and used again is :

(A) Semiconductor gauge (B) Metal foil gauge

(C) Unbonded gauge (D) Bonded gauge

21. Arrangement used to convert linear motion into a rotary motion is :

(A) Combination of spur gears (B) Bevel gears

(C) Rack and pinion (D) Worm and worm wheel

22. SI Unit of temperature is :

(A) Celcius (B) Fahrenheit

(C) Rankine (D) Kelvin

23. A change of pH value of 1 unit represents a change of hydrogen ion concentration by a ratio of :

(A) 0.1 (B) 1

(C) 10 (D) 100

24. PID Controller is also known as :

(A) Floating controller (B) Three-mode controller

(C) Discontinuous controller (D) Two position controller

25. Frequency of direct current is :

(A) Zero (B) 50 Hz

(C) 60 Hz (D) 120 Hz

26. Whenever the magnetic flux linked with a coil changes, an emf is induced in the conductor. This phenomenon is called :

(A) Lenz's law
(B) Electromagnetic induction
(C) Mutual induction
(D) Self induction

27. If a force F acting on a body moves it through a distance d in its direction, work done by the body is :

(A) $F \times d$
(B) F / d
(C) d / F
(D) $F + d$

28. An example of variable head flowmeter is :

(A) Rotameter
(B) Ultrasonic flowmeter
(C) Turbine flowmeter
(D) Venturimeter

29. The desired value of a controlled variable in a process control loop is called :

(A) Measured value
(B) Set point
(C) True value
(D) None of the above

30. A second order system is critically damped when the damping ratio is :

(A) Unity
(B) Less than unity
(C) Greater than unity
(D) Tends to infinity

31. The characteristics of zero order instrument is :

(A) It has dynamic error
(B) It has time lag
(C) It has no time lag
(D) It has static error

32. A photoelectric device in which resistance of the metal changes when radiation falls on it is :

(A) Photoemissive cell
(B) Photo voltaic cell
(C) Photoconductive cell
(D) Photo diode

33. The device which converts electrical energy into non electrical energy is known as :

(A) Inverse transducer
(B) Transducer
(C) Secondary transducer
(D) Active transducer

34. In moving coil galvanometer damping may be obtained by connecting ———— across the galvanometer.

(A) Series resistance (B) Series capacitance

(C) Shunt resistance (D) None of the above

35. Which among the following is not a precision instrument?

(A) Vernier caliper (B) Inside micrometer

(C) Outside micrometer (D) Steel rule

36. Pressure below the atmospheric pressure is known as :

(A) Absolute pressure (B) Static pressure

(C) Gauge pressure (D) Vacuum pressure

37. Among the following fundamental quantity is :

(A) Speed (B) Velocity

(C) Mass (D) Acceleration

38. The number of digits in a hexadecimal system is :

(A) 16 (B) 12

(C) 8 (D) 4

39. Which among the following is a volatile memory?

(A) ROM (B) RAM

(C) PROM (D) EEPROM

40. The algebraic difference between the upper and lower range value of the instrument is known as :

(A) Range (B) Error

(C) Deadzone (D) Span

41. Modulator/Demodulator for interfacing digitals signals to analog systems is called :

(A) Multiplexer (B) Multi vibrator

(C) Modem (D) None of the above

42. Dead weight tester works on the principle of :

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

(C) Boyle's law (D) Charle's law

43. Farad is the unit of :

(A) Inductance (B) Capacitance

(C) Current (D) Charge

44. The principle of operation of LVDT is based on :

(A) Self inductance (B) Mutual inductance

(C) Reluctance (D) Permeance

45. The ratio of velocity of light in vacuum to that in a medium is known as :

(A) Refractive index (B) Critical angle

(C) Snell's law (D) Specific rotation

46. A control system composed of two loops where the set point of the inner loop is the output of the controller of the outer loop is a :

(A) Cascade control (B) Ratio control

(C) Floating control (D) Discrete control

47. The material whose permeability changes when subjected to mechanical stress is a :

(A) Piezoresistive material (B) Magnetic material

(C) Magnetoresistive material (D) Magnetostrictive material

48. The splitting of composite beam of light into its constituent colours is known as :

(A) Refraction (B) Interference

(C) Diffraction (D) Dispersion

49. The energy produced by a liquid by virtue of its motion is called :

(A) Kinetic energy (B) Potential energy

(C) Pressure energy (D) Head energy

50. The primary schematic drawing used for laying out a process control installation is known as :
(A) P and D (B) P and ID
(C) PI and D (D) P and I

51. The cross section of bourdon tube is ———— in shape.
(A) Circular (B) Rectangular
(C) Elliptical (D) Octagonal

52. The difference between the measured value and true value is known as :
(A) Correction (B) Error
(C) Precision (D) Accuracy

53. A bistable device used for storing a bit of information is called :
(A) Flip flop (B) Floppy disc
(C) Flat pack (D) Encoder

54. A good control valve should have :
(A) Low valve coefficient (B) High valve coefficient
(C) Distortion (D) Cavitation

55. The pH value of pure water is :
(A) 0 (B) 4
(C) 7 (D) 14

56. Psychrometer is an instrument used to measure :
(A) Pressure (B) Density
(C) Humidity (D) Viscosity

57. Bidirectional flow can be measured using :
(A) Venturimeter (B) Rotameter
(C) Orificemeter (D) Electromagnetic flowmeter

58. The ratio of absolute viscosity to the density of the fluid is known as :
(A) Fluidity (B) Kinematic viscosity
(C) Viscosity index (D) None of the above

59. The device used to measure the torque being exerted along a rotating shaft is :

(A) Dynamometer (B) Tachometer

(C) Speedometer (D) Accelerometer

60. For a semiconductor strain gauge, change in resistance due to applied strain is due to

(A) Length change (B) Area change

(C) Resistivity change (D) Volume change

61. The amplifier used to drive the recorder is :

(A) Pre-amplifier (B) Power amplifier

(C) Differential amplifier (D) Operational amplifier

62. Partial radiation pyrometer works on the principle of :

(A) Stefan-Boltzmann's law (B) Planck's radiation law

(C) Weins's displacement law (D) Beer's law

63. The rate at which the charge carriers flow is measured in :

(A) Coulombs (B) Watts

(C) Watt-hour (D) Ampere

64. A dynamometer type wattmeter responds to :

(A) Average value of active power (B) Average value of reactive power

(C) Peak value of active power (D) Peak value of reactive power

65. The instrument which measures the total quantity of electricity delivered in a particular time is :

(A) Absolute instrument (B) Indicating instrument

(C) Integrating instrument (D) Recording instrument

66. Among the following thermocouples, T type is :

(A) Chromel-Alumel (B) Chromel-Constantan

(C) Copper-Constantan (D) Iron-Constantan

67. Hook's law states that, within the elastic limit stress is proportional to :

(A) Young's modulus (B) Bulk modulus

(C) Compressibility (D) Strain

68. The decimal equivalent of binary number 1111 is :

(A) 15 (B) 10

(C) 8 (D) 4

69. Substances which experiences a very weak force of attraction towards a magnet is a :

(A) Diamagnetic substance (B) Paramagnetic substance

(C) Ferromagnetic substance (D) None of the above

70. Restriction meter having least permanent pressure loss is :

(A) Flow nozzle (B) Orificemeter

(C) Venturimeter (D) Dahl tube

71. A pressure transducer that responds to the difference in pressure between two sources is :

(A) Bellows pressure gauge (B) Diaphragm pressure gauge

(C) D/P cell (D) Float gauge

72. Two diaphragms connected at their periphery is known as :

(A) Slack diaphragm (B) Corrugated diaphragm

(C) Capsule (D) Capsule assembly

73. The instrument used for comparing the dimensions of a component with a standard of length is :

(A) Sine bar (B) Comparator

(C) Autocollimator (D) Profilometer

74. The analyzer used to analyse complex gas sample is :

(A) Thermal conductivity analyzer (B) Electrical conductivity analyzer

(C) Magnetic analyzer (D) Chromatography

75. Isolation amplifier operates on the principle of :

(A) Filtering (B) Attenuation

(C) Amplification (D) Clipping

76. Response of a system to a sinusoidal input is called :

(A) Step response (B) Ramp response

(C) Impulse response (D) Frequency response

77. Fluids whose force-flow relation is linear is called :

(A) Compressible fluids (B) Incompressible fluids

(C) Newtonian fluids (D) Non-Newtonian fluids

78. At dew point temperature, relative humidity corresponds to :

(A) 0 percentage (B) 25 Percentage

(C) 50 percentage (D) 100 percentage

79. Level of inflammable liquids can be measured using :

(A) Float and shaft gauge (B) Magnetic level gauge

(C) Capacitive level gauge (D) Inductive level gauge

80. Weber is the unit of :

(A) Magnetic field (B) Permeability

(C) Magnetic flux (D) Magnetic moment

81. Which river is flowing through Thar Desert?

(A) Chambal (B) Kosi

(C) Ravi (D) Looni

82. In the following mountain peaks the highest one is :

(A) Kanjenjanga (B) Nandadevi

(C) Nangaparvath (D) Anamudi

83. Which is a Raabi Crop?

(A) Jowar (B) Cotton

(C) Barley (D) Rice

84. Manas Tiger Reserve is situated in :

(A) Haryana (B) Bihar

(C) Assam (D) Sikkim

85. Almora, the famous tourist centre is in :

(A) Maharashtra (B) Uttaranchal

(C) Rajasthan (D) Himachal Pradesh

86. Valayar is famous for ———————— industry.

(A) Cement (B) Tiles

(C) Plywood (D) Chemical Fertilizers

87. In Kerala, the three-tier panchayat system came into existence in :

(A) 1994 (B) 1995

(C) 1996 (D) 1997

88. The President of Indian National Congress at the Lucknow Session (1916) was :

(A) R.B. Ghosh (B) Annie Besant

(C) G.K. Gokhale (D) Ambika Charan Majumdar

89. Bhagat Singh's memorial is situated at :

(A) Gurudaspur (B) Ludhiana

(C) Amritsar (D) Ferozpur

90. The height of Anamudi is :

(A) 2585 m (B) 2817 m

(C) 2695 m (D) 2735 m

91. The freedom fighter from Kerala became the Indian High Commission in Sirlanka :

(A) K.A. Damodara Menon (B) K.P. Kesavamenon

(C) V.K. Krishnamenon (D) V.P. Menon

92. Who is the founder of "Samathva Samajam"?

(A) Vaikunda Swami (B) Vagbhadananda

(C) Chattampi Swamikal (D) Swami Brahmananda Sivayogi

93. The founder of Travancore Muslim Mahasabha :

(A) Ahammed Sahib (B) P. Seethi Sahib

(C) Vakkom Abdul Khader Moulavi (D) P. Sayed Muhammed

94. The political party founded by Pattom Thanupillai :

(A) Socialist Congress (B) Democratic Socialist Party

(C) Democratic Socialist Congress (D) Democratic Congress

95. The first secretary of KPCC :

(A) K. Madhavan Nair (B) U. Gopala Menon

(C) K.P. Kesava Menon (D) Panampally Govinda Menon

96. The director of "Nirmalyam" :

(A) Ramu Kariatt (B) Adoor Gopala Krishnan

(C) Aravindan (D) M.T. Vasudevan Nair

97. The Chief Minister of Tharkhand state is :

(A) Raghubar Das (B) Hemant Soren

(C) Babulal Marandi (D) Louis Marandi

98. 49th Jnanpeed Award has been given to :

(A) Gopal Das Neeraj (B) Dhudhnath Singh

(C) Shahnaz Bashir (D) Kedarnath Singh

99. Which state in India has the highest infant mortality rate in India in 2012?

(A) Odisha (B) Assam

(C) Madhya Pradesh (D) Bihar

100. The top winner of gold medals in National Games, 2015 :

(A) Kerala (B) Services

(C) Haryana (D) Maharashtra