

123/2017

Question Booklet
Alpha Code

A

Question Booklet
Serial Number

Total Number of Questions : 100

Time : 75 Minutes

Maximum Marks : 100

1. The question paper will be given in the form of a Question Booklet. There will be four versions of question booklets with question booklet alpha code viz. A, B, C & D.
2. The Question Booklet Alpha Code will be printed on the top left margin of the facing sheet of the question booklet.
3. The Question Booklet Alpha Code allotted to you will be noted in your seating position in the Examination Hall.
4. If you get a question booklet where the alpha code does not match to the allotted alpha code in the seating position, please draw the attention of the Invigilator IMMEDIATELY.
5. The Question Booklet Serial Number is printed on the top right margin of the facing sheet. If your question booklet is un-numbered, please get it replaced by new question booklet with same alpha code.
6. The question booklet will be sealed at the middle of the right margin. Candidate should not open the question booklet, until the indication is given to start answering.
7. Immediately after the commencement of the examination, the candidate should check that the question booklet supplied to him contains all the 100 questions in serial order. The question booklet does not have unprinted or torn or missing pages and if so he/she should bring it to the notice of the Invigilator and get it replaced by a complete booklet with same alpha code. This is most important.
8. A blank sheet of paper is attached to the question booklet. This may be used for rough work.
9. **Please read carefully all the instructions on the reverse of the Answer Sheet before marking your answers.**
10. Each question is provided with four choices (A), (B), (C) and (D) having one correct answer. Choose the correct answer and darken the bubble corresponding to the question number using Blue or Black Ball Point Pen in the OMR Answer Sheet.
11. **Each correct answer carries 1 mark and for each wrong answer 1/3 mark will be deducted. No negative mark for unattended questions.**
12. No candidate will be allowed to leave the examination hall till the end of the session and without handing over his/her Answer Sheet to the Invigilator. Candidates should ensure that the Invigilator has verified all the entries in the Register Number Coding Sheet and that the Invigilator has affixed his/her signature in the space provided.
13. Strict compliance of instructions is essential. Any malpractice or attempt to commit any kind of malpractice in the Examination will result in the disqualification of the candidate.

123/2017

1. DC stands for :
(A) Direct Charge (B) Dual Charge
(C) Direct Current (D) Discharge Current
2. The reciprocal of resistivity is called :
(A) Conductivity (B) Conductance (C) Permittivity (D) Permeability
3. The process of enlarging the end of a hole for accommodating the socket screw head is :
(A) Reaming (B) Spot facing (C) Counter boring (D) Counter sinking
4. Soft soldering is generally done _____.
(A) Above 450°C (B) At 1200°C
(C) Between 900°C and 1000°C (D) Below 450°C
5. A megger is also called _____.
(A) Resistance meter (B) Insulation meter
(C) Insulation Tester (D) Ohmmeter
6. In an open Circuit _____.
(A) Resistance and current are zero
(B) Resistance and current are infinity
(C) Resistance is zero and current is infinity
(D) Resistance is infinity and current is zero
7. The value of dc Current that will produce the same heat in a resistor as that of an ac Current is _____.
(A) Average value (B) Peak value (C) RMS value (D) All of these
8. The unit of frequency in ac is :
(A) Henry (B) Hertz (C) Weber (D) None of these

A

3

{P.T.O.}

9. When an unmagnetised soft iron is brought inside a uniform magnetic field, it :
 (A) Does not conduct electricity (B) Destroys the magnetic field
 (C) Develops N and S poles (D) None of these
10. The point angle of centre punch is _____.
 (A) 90° (B) 60° (C) 30° (D) 120°
11. Cells are connected in series to _____.
 (A) Increase the current rating (B) Increase the voltage rating
 (C) Decrease the internal resistance (D) All of the above
12. The pitch diameter of the external screw thread is checked by :
 (A) Vernier Caliper (B) Thread ring gauge
 (C) Screw pitch gauge (D) Screw thread micrometer
13. The correct equation for capacitance is :
 (A) $C = \frac{\rho l}{A}$ (B) $C = \frac{\epsilon A}{d}$ (C) $C = \frac{\epsilon A^2}{D}$ (D) None of these
14. The direction of induced emf in a coil can be found based on :
 (A) Faraday's Law (B) Lenze's Law
 (C) Fleming's Left Hand Rule (D) Fleming's Right Hand Rule
15. The material of twist drill is generally :
 (A) Diamond (B) Carbide steel (C) HSS (D) Cast steel
16. An Auto transformer has _____.
 (A) Two separate windings (B) No winding
 (C) Three windings (D) A Single winding
17. A secondary measuring element requires _____.
 (A) Calibration (B) Control element (C) Recording Tape (D) External Power

18. Insulating materials are used to _____.
- (A) Conduct very large current
 - (B) Prevent short circuit between conducting wires
 - (C) Prevent open circuit between voltage source and load
 - (D) Store very high Current
19. The process of adding impurities to a pure semiconductor is called _____.
- (A) Mixing
 - (B) Diffusing
 - (C) Forcing
 - (D) Doping
20. A P-N Junction photodiode has to be _____.
- (A) Reverse biased
 - (B) Forward biased
 - (C) Switch on
 - (D) Switch off
21. A bi polar transistor is _____.
- (A) Current control device
 - (B) Voltage control device
 - (C) Resistance control device
 - (D) None of these
22. The most heavily doped region in transistor is _____.
- (A) Emitter
 - (B) Base
 - (C) Collector
 - (D) None of these
23. The basic purpose of a filter is to _____.
- (A) Minimize variation in output
 - (B) Suppress harmonics in rectified output
 - (C) Remove ripples from the rectified output
 - (D) Stabilize the DC output
24. Which of the following rectifiers requires 4 Diodes ?
- (A) Half wave rectifier
 - (B) Full wave rectifier
 - (C) Bridge rectifier
 - (D) Voltage quadruple
25. The ideal OP-amp has the following characteristics _____.
- (A) Infinite input resistance and gain, zero output resistance
 - (B) Infinite gain, zero input and output resistance
 - (C) Infinite gain, input and output resistance
 - (D) Infinite output resistance and gain, zero input resistance

26. _____ amplifier is commonly used to amplify the output of a transducer.
 (A) Class A amplifier (B) Class B amplifier
 (C) Class AB amplifier (D) Instrumentation amplifier
27. The NAND gate output will be low if the two inputs are _____.
 (A) 00 (B) 01 (C) 10 (D) 11
28. The binary equivalent of 673 is _____.
 (A) 1001010010 (B) 1000010101 (C) 1010100001 (D) 1010101001
29. The decimal equivalent of the hexadecimal number 'AO' H is _____.
 (A) 100 (B) 256 (C) 80 (D) 160
30. The Boolean expression $\overline{A}B + A\overline{B} + AB$ simplified to _____.
 (A) $A + B$ (B) $\overline{A + B}$ (C) \overline{AB} (D) $A.B$
31. The gates required to build a half adder are _____.
 (A) EX-OR and NAND gate (B) EX-OR and AND gate
 (C) EX-OR and NOR gate (D) Four NAND gates
32. Which one among the following has a single input and multiple outputs ?
 (A) Counter (B) Adders (C) Multiplexer (D) De multiplexer
33. _____ and _____ gate are called universal gates.
 (A) AND, OR (B) NAND, AND (C) NOT, OR (D) NAND, NOR
34. Which of these is a volatile memory ?
 (A) RAM (B) ROM (C) PROM (D) EPROM
35. The length of program counter (PC) of 8085 microprocessor is _____.
 (A) 6 bits (B) 8 bits (C) 12 bits (D) 16 bits

36. Orifice plates are usually made of _____.
(A) Stainless steel (B) Copper (C) Plastic material (D) Rubber
37. Measurement of phase and frequency in a CRO is done with the help of _____.
(A) Sampling (B) Lissajous pattern
(C) Deflection of signal (D) None of these
38. Digital frequency meter consists of _____.
(A) A/D Converter (B) Digital Converter
(C) D/A Converter (D) Schmitt trigger
39. LCD stands for _____.
(A) Light Crystal Display (B) Liquid Crystal Display
(C) Light Colour Display (D) Liquid Colour Display
40. Which of the following device is bidirectional but without a gate ?
(A) SCR (B) TRIAC (C) DIAC (D) None of these
41. A TRIAC is like a _____.
(A) Unidirectional SCR (B) Bidirectional SCR
(C) NPN Transistor (D) PNP Transistor
42. Which of the following elements does not have five valence electrons ?
(A) Phosphorus (B) Arsenic (C) Antimony (D) Indium
43. PCB stands for _____.
(A) Permanent Circuit Board (B) Printed Circuit Board
(C) Parallel Circuit Bridge (D) None of these
44. 555 Timer is a _____ pin IC.
(A) 6 (B) 12 (C) 8 (D) 10

45. Derived units can be expressed in terms of _____.
- (A) Fundamental Units (B) SI Units
(C) Calibrated Units (D) CGS Units
46. The Unit of capacitance is :
- (A) Henry (B) Coulomb (C) Farad (D) Watt
47. The consistency of reproducibility of results in measuring instruments are described by the characteristic _____.
- (A) Accuracy (B) Reproducibility (C) Precision (D) Repeatability
48. Hydrostatic pressure type level indicator is a :
- (A) Direct method of liquid level measuring system
(B) Indirect method of liquid level measuring system
(C) Torque tube displacer type liquid level measuring system
(D) All of the above
49. Which of the following is a dynamic characteristic of measuring instrument ?
- (A) Dead band (B) Fidelity (C) Resolution (D) Drift
50. Creeping is the phenomena which occurs is _____.
- (A) Volt meter (B) Watt meter (C) Energy meter (D) Ammeter
51. Stroboscope uses a _____.
- (A) Rotating Disc or Drum (B) Rotating collar
(C) Moving spring (D) None of these
52. The specific gravity of a liquid is the ratio of its density with _____.
- (A) Density of air (B) Density of water at 4°C
(C) Density of mercury (D) Density of saline

53. A liquid moves from a region of :
- (A) Low pressure to high pressure (B) Equal pressure
(C) High pressure to Low pressure (D) None of these
54. The Instrument for measuring of atmospheric pressure is _____.
- (A) Barometer (B) Bourdon tube meter
(C) Manometer (D) Diaphragm meter
55. Which of the following pressure transducer requires no external power ?
- (A) Capacitive transducer (B) Piezo electric transducer
(C) Photo electric transducer (D) LVDT
56. The amount of fluid that flows past a given point in a definite period of time is :
- (A) Rate of flow (B) Differential flow (C) Total flow (D) None of these
57. Which of the following is **not** a restriction in a pipe for flow instrument ?
- (A) Piston (B) Orifice plate (C) Nozzle (D) Segmental plate
58. The unit of viscosity is _____.
- (A) Newton (B) Centipoise (C) Dyne (D) Kilogram
59. In a flow meter, the pressure is minimum at :
- (A) Vena Contracta (B) Pitot tube (C) Orifice (D) None of these
60. The volume of gas varies _____ with temperature and _____ with pressure.
- (A) Inversely, Directly (B) Inversely, Inversely
(C) Directly, inversely (D) Directly, Directly
61. The fluid flows _____ inside a rotameter for flow measurement.
- (A) Vertically downwards (B) Vertically upwards
(C) Horizontally (D) Inclined

62. Which of the following is **not** a mode of heat transfer ?
(A) Conduction (B) Radiation (C) Convection (D) Insulation
63. The boiling point and freezing point of water are used as fixed points in _____ of temperature measurement.
(A) Centigrade scale (B) Fahrenheit scale
(C) Both (A) and (B) (D) None of these
64. In Rankine scale the freezing point of water is at :
(A) 671°R (B) 459°R (C) 471°R (D) 491°R
65. Liquid filled thermometer works on the principle of :
(A) Thermal Conduction (B) Change in pressure
(C) Thermal expansion (D) None of these
66. The most commonly used gas in vapour pressure thermometer is :
(A) Helium (B) Hydrogen (C) Nitrogen (D) Oxygen
67. In an automatic control system, which of the following is **not** used ?
(A) Error detector (B) Final control element
(C) Sensor (D) Oscillator
68. Which of the following is **not** a final control element ?
(A) Potentiometer (B) Control Valve
(C) Servo motor (D) Electropneumatic converter
69. _____ directly convert temperature to voltage.
(A) Potentiometer (B) Thermocouple (C) LVDT (D) None of these

70. In an open loop control system, the output is _____.
- (A) Independent of control input
 - (B) Dependent of control input
 - (C) Independent of system parameters
 - (D) None of these
71. Which type of the following thermocouples is the least expensive ?
- (A) K-type
 - (B) B-type
 - (C) T-type
 - (D) J-type
72. RTD has _____ temperature coefficient.
- (A) No
 - (B) Negative
 - (C) Positive
 - (D) All of these
73. For measuring the specific gravity of milk _____ is commonly used.
- (A) Gluco meter
 - (B) Lactometer
 - (C) Manometer
 - (D) Pyrometer
74. PID stands for _____.
- (A) Piping and Instrument Design
 - (B) Piping and Instrument Drawing
 - (C) Process control and Instrumentation Drawing
 - (D) Proportional, Integral and Derivative control
75. The program for a PLC is entered using _____.
- (A) C
 - (B) C++
 - (C) Assembly language
 - (D) Relay Ladder logic programming
76. Which of the following are fluid ?
- (A) Gases
 - (B) Liquids
 - (C) Both (A) and (B)
 - (D) None of these

77. Which of the following are graphic recorder ?
(A) Strip chart (B) Circular chart (C) Both (A) and (B) (D) None of these
78. At Constant Pressure Volume of gas _____ for equal increase in temperature.
(A) Decreases (B) Increases
(C) Remains constant (D) None of these
79. Nutating disc type flow meters are _____.
(A) Quantity flow meter (B) Differential type flow meter
(C) Velocity type flow meter (D) Measuring pump
80. The instrument used for measuring blood pressure is :
(A) Gluco meter (B) Well type manometer
(C) 'U' Tube manometer (D) Sphygmomanometer
81. Pradhan Manthri Jan Dhan Yojana (PMJDY) launched by the Prime Minister on :
(A) 28th August 2014 (B) 30th August 2014
(C) 24th August 2015 (D) 30th August 2015
82. Chief Election Commissioner is elected by :
(A) Prime Minister (B) Parliament (C) President (D) None of these
83. 'In The Cause of The People' - Whose autobiography is this ?
(A) P. Krishnapillai (B) A.K. Gopalan (C) C. Kesavan (D) G.P. Pillai
84. Who said this - "I am the leader ; shoot me first before you kill others" ?
(A) Anna Chandu (B) Accamma Cheriyan
(C) Arya Pallam (D) Lalitha prabhu

85. The Newspaper 'Prabhatam' was started by :
- (A) C.V. Kunhiraman (B) K.P. Kesava Menon
(C) EMS (D) Kandathil Varghese Mappila
86. Name the Dalit religious Protest Movement founded by Poikayil Yohannan :
- (A) Vaala Samudaya Parishkarani Sabha
(B) Samathva Samajam
(C) Sadhu Jana Paripalana Sangham
(D) Prathyaksha Raksha Daiva Sabha
87. Purogamana Sahitya Prasthanam was formed on :
- (A) 1980 (B) 1985 (C) 1991 (D) 1981
88. Which University has been ranked as the best University in 2017 ?
- (A) Stanford University
(B) Harvard University
(C) Massachusetts Institute of Technology
(D) None of these
89. With which country's collaboration India is being constructed Bullet Train Project ?
- (A) Singapore (B) Malaysia (C) China (D) Japan
90. Name the state which has been announced Pension Scheme for journalists recently :
- (A) Sikkim (B) Punjab (C) Maharashtra (D) Haryana
91. Name the central scheme which aims to provide self employment to learned jobless youth and women :
- (A) Prime Minister Rozgar Yojana
(B) Anthyodaya Anna Yojana
(C) Valmiki Ambedkar Awas Yojana
(D) Rashtriya Swasthya Bima Yojana

92. Who declares Financial Emergency ?
 (A) President (B) Prime Minister
 (C) Finance Minister (D) None of these
93. Who praised Mannathu Padmanabhan as 'Madan Mohan Malaviya of Kerala' ?
 (A) Irfan Habib (B) K.M. Panikker
 (C) Rajan Gurukkal (D) A.L. Basham
94. The newspaper Mathrubhumi was started in the year :
 (A) 1925 (B) 1923 (C) 1930 (D) 1932
95. Yachana Yathra (1931) was led by :
 (A) Vagbhadananda (B) K. Kelappan
 (C) V.T. Bhattathiripad (D) Sahodaran Ayyapan
96. The first women player of Latvian origin who got the 2017 French Open Women's Singles Crown :
 (A) Venus Williams (B) Simona Halep
 (C) Serena Williams (D) Jelena Ostapenko
97. Which is the largest women empowering project in India ?
 (A) Kudumbasree (B) Ashraya (C) Snehitha (D) Sabala Scheme
98. Who is known as 'Lincoln of Kerala' ?
 (A) Makthi Thangal (B) Pandit Karuppan
 (C) T.K. Madhavan (D) K.P. Kesava Menon
99. The Venue of Paliyam Satyagraha of 1948 was :
 (A) Travancore (B) Kochi
 (C) Chennamangalam (D) Kollom
100. Name the constitutional organ which has the power to amend constitution of India :
 (A) Parliament (B) Judiciary (C) Executive (D) Legislative

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SPACE FOR ROUGH WORK

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