PSC Workshop Instructor/ Instructor Grade II / Demonstrator/ Draftsman Grade II - Information Technology - Technical Educatioin Examination
Previous Year Question Paper

Exam Name: Workshop Instructor/ Instructor Grade II / Demonstrator/ Draftsman Grade II - Information Technology - Technical Educatioin

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Medium of Questions: English

1. Volunteer Caption of the Guruvayoor Satyagraha was
   A) K. Kelappan
   B) T. K. Madhavan
   C) A. K. Gopalan
   D) K. P. Kesava Menon

2. Who was the Maharaja of Travancore issued the famous Temple Entry Proclamation ?
   A) Sri Chithira Thirunal
   B) Sri Uthram Thirunal
   C) Sri Moolam Thirunal
   D) Sri Karthika Thirunal

3. Which year UN proclaimed the convention on the Right of the Child ?
   A) 10th December 1945
   B) 20th November 1989
   C) 20th November 1945
   D) 10th December 1980

4. Which agitation was related to Joint Political Congress ?
   A) Vaikkam Satyagraha
   B) Malayali Memorial
   C) Guruvayoor Satyagraha
   D) Nivarthana Agitation

5. Who was the Malayali Leader mentioned by Gandhiji in his autobiography ?
   A) C. Kesavan
   B) T. K. Madhavan
   C) K. Kelappan
   D) G. P. Pillai

6. Name the renaissance leader of Kerala who opposed the "Uzhiyam" or forced labour.
   A) Vaikunda Swamikal
   B) Chattambi Swamikal
   C) Ayyankali
   D) Narayana Guru

7. Select the author of the poem "Keralam"
   A) Keralavarma Valiyakoyi Thampuran   B) Kodungallur Kunhikkuttan Thampuran
   C) Ulloor S. Parameswara Iyer
   D) G. Sankara Kurup

8. Who is the Architect of Fundamental Rights in Indian Constitution ?
   A) Sardar Vallabhbhai Patel
   B) Dr. Rajendra Prasad
   C) Dr. B. R. Ambedkar
   D) Jawaharlal Nehru

9. Who is known as Kerala Valmeeki ?
   A) Ulloor Parameswara Iyer
   B) Ezhuthachan
   C) Vallathol Narayana Menon
   D) Kumanasaan

10. Name the Maharaja of Travancore issued the famous Channar Proclamation.
    A) Sri Chithira Thirunal
    B) Sri Moolam Thirunal
    C) Sri Uthram Thirunal
    D) Sri Karthika Thirunal

A

11. The square matrix A has an inverse if and only if

    A) $|A| = 0$ B) $|A| \neq 0$ C) $|A| > 1$ D) $|A| < 1$

12. If A and B are symmetric matrices, then

    A) A + B is symmetric   B) A + B is skew symmetric

    C) A + B is identity   D) None of these

13. If two rows of a matrix A are identical, then

    A) $|A| = 1$ B) $|A| = 0$

    C) $|A| \neq 0$ D) None of these

14. The expansion of $(3 - 4x^2)^5$ has _____ terms.

    A) 4   B) 5   C) 6   D) 7

15. The value of $\tan 315° =$

    A) 1   B) –1   C) 0   D) $\sqrt{3}$

16. What is the slope of the straight line perpendicular to the straight line $3x - 4y + 12 = 0$?

    A) $\dfrac{3}{4}$ B) $\dfrac{4}{3}$ C) $-\dfrac{4}{3}$ D) $-\dfrac{3}{4}$

17. The value of $\lim\limits_{x \to 1} (5x - 3) =$

    A) 5   B) 3   C) 1   D) 2

18. What is the slope of the parabola $y = x^2$ at the point (2, 4) ?

    A) 4   B) 2   C) 1   D) 0

19. The value of the integral $\int\limits_{-2}^{1} 5dx$ is

    A) 5   B) 10   C) –15   D) 15

20. The general solution of the differential equation $\dfrac{dy}{dx} = -\dfrac{x}{y}$ is

    A) $x^2 + y^2 = c$, c an arbitrary constant   B) $x^2 - y^2 = c$

    C) $x = -y$ D) $x + y = c$

A   4

21. When a brick is cut off length wise, the cut out bricks are called

    A) Queen closer

    B) King closer

    C) Corbel

    D) Bat

22. While laying bricks in a wall, frog of the brick must be kept

    A) Sideward

    B) Downward

    C) Upward

    D) In any position

23. Metallic tapes are made of

    A) Steel

    B) Cloth and Wires

    C) Invar

    D) Nickel

24. The line of collimation method of reduction of levels, does not provide a check on

    A) Reduced Levels

    B) Back Sights

    C) Fore Sights

    D) Intermediate Sights

25. A Total Station measures

    A) Co-ordinates alone

    B) Slope distance and horizontal distance

    C) Co-ordinates and horizontal distance

    D) Vertical, horizontal angles and slope distance

A   -5-

26. In a four stroke engine when one stroke of the piston completed, the crank rotates through

    A) 90°

    B) 180°

    C) 270°

    D) 360°

27. The excess energy developed during power stroke in an engine is stored by

    A) Governor

    B) Flywheel

    C) Crank shaft

    D) Piston

28. The function of a differential is to

    A) Connect two rear wheels in correct alignment

    B) Receive power from the engine and to transmit to the rear wheels

    C) Absorb shocks and keeps the stability of the vehicle

    D) Provide relative motion to the two rear wheels when the vehicle is taking a turn

29. A condenser in a steam power plant is used to

    A) Generate steam

    B) Increase pressure

    C) Exchange the heat of low pressure steam to the cooling medium

    D) Convert heat energy of steam to mechanical energy

30. Which power plant is more efficient ?

    A) Hydro-electric power plant

    B) Nuclear power plant

    C) Thermal power plant

    D) Diesel power plant

A   -6-

31. Voltage applied across 40W lamp is halved. Power consumed by this lamp at this voltage is

   A) 20W

   B) 10W

   C) 40W

   D) 5W

32. Which of the following statement associated with purely inductive circuit is True ?

   A) Current lead the voltage by 90°

   B) Current is in phase with voltage

   C) Power factor unity

   D) Average power zero

33. R L C series circuit will resonate, if

   A) $XL > XC$

   B) $XL < XC$

   C) $XL = XC$

   D) $XL = 1/XC$

34. Energy consumed by 750 W electric iron for 6 minutes is

   A) 0.075 kWh

   B) 0.45 kWh

   C) 4.5 kWh

   D) 0.75 kWh

35. Permiance of a magnetic circuit is given by reciprocal of

   A) Permeability

   B) Flux density

   C) Reluctivity

   D) Reluctance

A   -7-

36. Which colour is emitted by an LED when the semiconductor material Gallium Arsenide phosphide is used ?

    A) Yellow

    B) Red

    C) Green

    D) Blue

37. Name the sensor which is used to detect the presence of near by objects without any physical contact with the object.

    A) Limit Switch

    B) Relay

    C) Proximity Switch

    D) DPDT

38. The program for a microcontroller is stored in its _____

    A) ROM

    B) RAM

    C) CPU

    D) None of the above

39. Which of the following technology is used in CDMA ?

    A) Time Division

    B) Frequency Division

    C) GSM

    D) Spread Spectrum

40. Nowadays, the battery available for exclusive usage in inverters are _____

    A) Nickel-Cadmium Batteries

    B) Lithium Batteries

    C) Tubular Batteries

    D) None of the above

41. The most popular technology in time-division switching is called the
   A) TSI   B) STI   C) ITS   D) None of the above

42. Which multiplexing technique involves signals composed of light beams ?
   A) WDM   B) FDM   C) TDM   D) None of the above

43. Which of the following primarily uses guided media ?
   A) Radio broadcasting   B) Satellite communications
   C) Local telephone system   D) Cellular telephone system

44. When a beam of light travels through media of two different densities, if the angle of incidence is greater than the critical angle, _____ occurs.
   A) Refraction   B) Reflection   C) Criticism   D) Incidence

45. In IP networking, network and Host address are separated using
   A) ARP   B) Separator   C) Net mask   D) TCP

46. In a router, what is the name of the structure that tells where to deliver IP packet ?
   A) Routing address   B) Routing table
   C) Delivery table   D) Status table

47. What is the nominal bit rate of fast Ethernet ?
   A) 10 MB/s   B) 100 MB/s   C) 10 GB/s   D) 1000 MB/s

48. The synchronous modems are more costly than the asynchronous modems because
   A) They produce large volume of data
   B) They operate with a larger bandwidth
   C) They transmit the data with stop and start bits
   D) They contain clock recovery circuits

49. What is data encryption standard ?
   A) Block cipher   B) Stream cipher   C) Bit cipher   D) None of the above

50. Which of the malicious program do not replicate automatically ?
   A) Worm   B) Trap doors   C) Logic bomb   D) Trojan horse

51. In which OSI layer, bits are converted to frames ?
   A) Presentation layer   B) Data link layer
   C) Transport layer   D) Network layer

52. A firewall protect
   A) Viruses
   B) Fire
   C) Worms
   D) Unauthenticated interactive logins from outside world

A

53. A 32 : 1 multiplexer can be designed using
    A) Two 16 : 1 multiplexers and one two input OR gate
    B) Two 16 : 1 multiplexers and one two input AND gate
    C) Two 16 : 1 multiplexers and two two input OR gate
    D) Two 16 : 1 multiplexers only

54. Which logic device is called a data distributor ?
    A) Multiplexer   B) Encoder
    C) Decoder   D) Demultiplexer

55. A full adder can be realized using
    A) One half adder and two OR gates
    B) Two half adders and one OR gate
    C) Two half adders and two OR gates
    D) Two half adders and one AND gates

56. The output frequency of a mod-12 counter is 6 kHz. It's input frequency is
    A) 6 kHz   B) 500 Hz   C) 24 kHz   D) 72 kHz

57. Which of the following flip flop is used as a latch ?
    A) T flip flop   B) Master slave flip flop
    C) JK flip flop   D) D flip flop

58. A decoder with 64 output lines has _____ select lines.
    A) 4   B) 6   C) 12   D) 8

59. The instruction queue in a microprocessor is a _____ group of registers.
    A) First in first out   B) Last in first out
    C) Last in last out   D) First in last out

60. The physical memory size of 8086 processor is
    A) 1 terabyte   B) 1 Mbyte   C) 64 kilobyte   D) 20 megabyte

61. In 8086, the interrupts initiated by executing "INT n" instruction are called
    A) Vectored interrupt   B) Non vectored interrupt
    C) Hardware interrupt   D) Software interrupt

62. Type 4 interrupt in 8086 is called
    A) Divide by zero interrupt   B) Break point interrupt
    C) Overflow interrupt   D) Single step interrupt

63. In _____ addressing mode, the instruction itself will specify the data to
    be operated by the instruction.
    A) Direct addressing   B) Relative addressing
    C) Indexed addressing   D) Implied addressing

64. The maximum mode in 8086 is called
   A) Uniprocessor mode
   B) Multiprocessor mode
   C) Handshake mode
   D) Bidirectional mode

65. The idea of cache memory is based on which of the following ?
   A) The property of locality of reference
   B) The heuristic 90-10 rule
   C) The fact that references generally tend to cluster
   D) All of the above

66. In a virtual memory system the addresses used by the programmer belongs to
   A) Memory space
   B) Physical address
   C) Address space
   D) Main memory system

67. The _____ provides path between the CPU and peripheral devices which are connected via interface cards.
   A) Computer
   B) Expansion bus
   C) Memory
   D) CPU

68. A nonvolatile type of memory that can be programmed and erased in sectors, rather than one byte at a time is
   A) Flash memory
   B) EEPROM
   C) MPROM
   D) EPROM

69. A complete microcomputer system consists of
   A) Microprocessor
   B) Memory
   C) Peripheral equipment
   D) All of the above

70. The address mapping is done, when the program is initially loaded is called
   A) Dynamic relocation
   B) Relocation
   C) Static relocation
   D) Dynamic as well as static relocation

71. Semaphores are mostly used to implement
   A) System calls
   B) IPC mechanism
   C) System protection
   D) None of the above

72. Optimal page-replacement algorithm is
   A) Replace the page that has not been used for a long time
   B) Replace the page that has been used for a long time
   C) Replace the page that will not be used for a long time
   D) None of the above

73. Bankers algorithm for resource allocation deals with
   A) Deadlock prevention
   B) Deadlock recovery
   C) Mutual exclusion
   D) Deadlock avoidance

74. The problem of thrashing is affected significantly by
    A) Program structure   B) Program size
    C) Primary storage size   D) All of the above

75. When the page-fault rate is low
    A) The turnaround time increases
    B) The effective access time increases
    C) The effective access time decreases
    D) Both A) and B)

76. To avoid the race condition, the number of processes that may be simultaneously inside their critical section is
    A) 8   B) 1   C) 16   D) 0

77. Converting a primitive type data into its corresponding wrapper class object instance is called
    A) Boxing   B) Wrapping   C) Instantiation   D) Autoboxing

78. Which of these modifiers can be used for a variable so that it can be accessed from any thread or parts of a program ?
    A) Transient   B) Volatile
    C) Global   D) No modifier is needed

79. Which method can't be overridden ?
    A) Super   B) Static   C) Final   D) PrintIn

80. Which of the following statement is incorrect ?
    A) Default constructor is called at the time of declaration of the object if a constructor has not been defined.
    B) Constructor can be parameterized.
    C) finalize() method is called when a object goes out of scope and is no longer needed.
    D) finalize() method must be declared protected.

81. Statistical use testing relies on probability distributions based on
    A) Mixture of control structures used in the program
    B) Order in which the module execute
    C) The way software will actually be used
    D) User interface design standards

82. The problem that threatens the success of a project but which has not yet happened ?
    A) Bug   B) Error   C) Risk   D) Failure

83. Which is not a size metric ?
    A) LOC   B) Function count
    C) Program length   D) Cyclomatic complexity

84. Number of clauses used in ISO 9001 to specify quality software requirements
    A) 15   B) 20   C) 25   D) 28

85. Which of the following is not the required condition for binary search algorithm ?
    A) The list must be sorted
    B) There should be the direct access to the middle element in any sublist
    C) There must be mechanism to delete and/or insert elements in list
    D) None of the above

86. Which of the following data structure can't store the non-homogeneous data elements ?
    A) Arrays   B) Records   C) Pointers   D) Stacks

87. The situation when in a linked list START=NULL is
    A) Underflow   B) Overflow   C) Houseful   D) Saturated

88. If every node u in G is adjacent to every other node v in G. A graph is said to be
    A) Isolated   B) Finite
    C) Complete   D) Strongly connected

89. Data independence allows
    A) Sharing the same database by several applications
    B) Extensive modification of applications
    C) No data sharing between applications
    D) Elimination of several application programs

90. The number of attributes in relation is called as its
    A) Cardinality   B) Entity   C) Tuples   D) Degree

91. Which of the following is the syntax for views where v is view name ?
    A) Create view v as "query name";
    B) Create "query expression" as view;
    C) Create view v as "query expression";
    D) Create view "query expression"

92. _____ command can be used to modify a column in a table.
    A) Alter   B) Update   C) Set   D) Create

A   -13-

93. The main task carried out in the _____ is to remove repeating attributes to separate tables.
    A) First Normal Form
    B) Second Normal Form
    C) Third Normal Form
    D) Fourth Normal Form

94. A _____ is a set of column that identifies every row in a table.
    A) Composite key
    B) Candidate key
    C) Foreign key
    D) Super key

95. The output of XML document can be viewed in
    A) Word processor
    B) Web browser
    C) Notepad
    D) None of the above

96. What is a FTP program used for ?
    A) Transfer files to and from internet server
    B) Designing a web site
    C) Connecting to the internet
    D) None of the above

97. Which statement is true ?
    A) An XML document can have one root element
    B) An XML document can have one child element
    C) XML element have to be lower case
    D) All the above

98. Which of the following statement is false regarding "Cookies" ?
    A) Cookies are programs which run in the background of the web-client.
    B) Cookies have the potential of being used to violate the privacy of users.
    C) Cookies are very helpful in keeping track of users in developing online shopping cart applications, personalized portals and in advertising on web sites.
    D) Cookies cannot contain more than 4 Kb of data.

99. Which of the following attributes of text box control allow to limit the maximum character ?
    A) Size
    B) Len
    C) Maxlength
    D) All of these

100. A much better approach to establish the base URL is to use
    A) BASE element
    B) HEAD element
    C) Both A) and B)
    D) None of these