Online Examinations (Even Sem/Part-I/Part-II Examinations 2020 - 2021

Course Name - APPLIED & DIGITAL ELECTRONICS
Course Code -DEE404

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- [ ] M.SC.(ANCS)
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Answer all the questions. Each question carry one mark.

9. 1.Which type of triggering is shown by the D flip flops in buffer registers for the temporary storage of digital words?

   Mark only one oval.

   - [ ] Positive level triggering
   - [ ] Negative level triggering
   - [ ] Positive edge triggering
   - [ ] Negative edge triggering

10. 2.The full form of TCTL is _____.

Mark only one oval.

- Transistor-coupled transistor logic
- Transistor-capacitor transistor logic
- Transistor-complemented transistor logic
- Transistor-complementary transistor logic

11. 3.On subtracting (001100)2 from (101001)2 using 2's complement, we get _____.

Mark only one oval.

- 1101100
- 11101
- 11010101
- 11010111

12. 4.The primary advantage of RTL technology was that

Mark only one oval.

- It results as low power dissipation
- It uses a minimum number of resistors
- It uses a minimum number of transistors
- It operates swiftly

13. 5.What is the addition of the binary numbers 11011011010 and 010100101?

Mark only one oval.

- 0111001000
- 1100110110
- 11101111111
- 10011010011

14. 6.An OR gate has 4 inputs. One input is high and the other three are low. The output is

Mark only one oval.

- alternately high and low
- High
- Low
- None of these

15. 7.In a sequential circuit, the output at any time depends only on the input values at that time.

Mark only one oval.

- Past output values
- Past output and Present input
- Intermediate values
- Present input values

16. 8.Reflected binary code is also known as _____.

Mark only one oval.

- BCD code
- Binary code
- ASCII code
- Gray Code

17. 9.There are many situations in logic design in which simplification of logic expression is possible in terms of XOR and _____ operations.

Mark only one oval.

- X-NOR
- X-OR
- NOR
- NAND

18. 10.What is the function of an enable input on a multiplexer chip?

Mark only one oval.

- To apply Vcc
- To connect ground
- To active the entire chip
- To active one half of the chip

19. 11.The number 140 in octal is equivalent to?

Mark only one oval.

- (90)10
- (88)10
- (86)10
- (96)10

20. 12.Which input values will cause an AND logic gate to produce a HIGH output?

Mark only one oval.

- At least one input is HIGH
- At least one input is LOW
- All inputs are HIGH
- All inputs are LOW

21. 13.Which of the following is the Universal Flip-flop?

Mark only one oval.

- S-R flip-flop
- J-K flip-flop
- Master slave flip-flop
- D Flip-flop

22. 14.The canonical sum of product form of the function y(A,B) = A + B is

Mark only one oval.

- AB + BB + A'A
- AB + AB' + A'B
- BA + BA' + A'B'
- AB' + A'B + A'B'

23. 15.The expression for Absorption law is given by _____

Mark only one oval.

- A + AB = A
- A + AB = B
- AB + AA' = A
- A + B = B + A

24. 16.Two bit addition is done by _____.

Mark only one oval.

- ripple carry adder
- carry sum adder
- full adder
- half adder

25. 17.Don’t care conditions can be used for simplifying Boolean expressions in _____.

Mark only one oval.

- Registers
- Terms
- K-maps
- Latches

26. 18.Which gates are ideal for checking the parity bits?

Mark only one oval.

- AND
- NAND
- EX-OR
- EX-NOR

27. 19.(734)8= (?)16

Mark only one oval.

- C1D
- DC1
- 1CD
- 1DC

28. 20.1's complement can be easily obtained by using

Mark only one oval.

- Comparator
- Inverter
- Adder
- Subtractor

29. 21.Convert the hexadecimal number (1E2)16 to decimal:

Mark only one oval.

- 480
- 498
- 482
- 484

30. 22.The logical sum of two or more logical product terms is called _____.

Mark only one oval.

- SOP
- POS
- OR operation
- NAND operation

31. 23.A demultiplexer is used to-

Mark only one oval.

- Route the data from single input to one of many outputs
- Perform serial to parallel conversion
- Both Route the data from single input to one of many outputs & Perform serial to parallel conversion
- Select data from several inputs and route it to single output

32. 24.The basic R-S flip-flop is

Mark only one oval.

- A monostable multivibrator
- A bistable multivibrator
- An astable multivibrator
- A Schmitt trigger

33. 25.Internal propagation delay of asynchronous counter is removed by _____

Mark only one oval.

- Ripple counter
- Ring counter
- Modulus counter
- Synchronous counter

34. 26.In the toggle mode a JK flip-flop has-

Mark only one oval.

- J = 0, K = 0
- J = 1, K = 1
- J = 0, K = 1
- J = 1, K = 0

35. 27.How many NOT gates are required to implement the Boolean expression: X = AB'C + A'BC?

Mark only one oval.

- 2
- 3
- 4
- 5

36. 28.Convert (0.345)10 into an octal number:

Mark only one oval.

- (0.16050)8
- (0.26050)8
- (0.19450)8
- (0.24040)8

37. 29.TTL circuits with “totem-pole” output stage minimize

Mark only one oval.

- The power dissipation in RTL
- The time consumption in RTL
- The speed of transferring rate in RTL
- Propagation delay in RTL

38. 30.In a multiplexer, the selection of a particular input line is controlled by _____

Mark only one oval.

- Data controller
- Selected lines
- Logic gates
- Both data controller and selected lines

39. 31.The inverter can be produced with how many NAND gates?

Mark only one oval.

- 1
- 3
- 2
- 4

40. 32.In which operation, carry is obtained?

Mark only one oval.

- Subtraction
- Addition
- Multiplication
- Addition and Subtraction

41. 33.(A + B)(A' * B') = ?

Mark only one oval.

- 1
- 0
- AB
- AB'

42. 34.Standard TTL circuits operate with a __ volt power supply

Mark only one oval.

- 2
- 5
- 4
- 6

43. 35.The enable input is also known as _____

Mark only one oval.

- Select input
- Decoded input
- Strobe
- Sink

44. 36.The universal gate is_____.

Mark only one oval.

- NAND gate
- OR gate
- NOT gate
- AND gate

45. 37.How many NAND circuits are contained in a 7400 NAND IC?

Mark only one oval.

- 1
- 2
- 4
- 8

46. 38.Ripple counters are also called _____.

Mark only one oval.

- SSI counters
- Asynchronous counters
- Synchronous counters
- VLSI counters

47. 39.In Boolean algebra, the OR operation is performed by which properties

Mark only one oval.

- Associative properties
- Commutative properties
- Distributive properties
- All of these

48. 40.Simplify Y = AB' + (A' + B)C.

Mark only one oval.

- AB' + C
- AB + AC
- A'B + AC'
- AB + A

49. 41.How many AND gates are required for a 8-to-1 multiplexer?

Mark only one oval.

- 5
- 7
- 8
- 6

50. 42.The NOR gate output will be high if the two inputs are _____.

Mark only one oval.

- 0
- 1
- 10
- 11

51. 43.What is one disadvantage of an S-R flip-flop?

Mark only one oval.

- It has no Enable input
- It has a RACE condition
- It has no clock input
- Invalid State

52. 44.How many shift registers are used in a 4-bit serial adder?

Mark only one oval.

- 2
- 3
- 4
- 5

53. 45.The digit F in Hexadecimal system is equivalent to ..... in decimal system.

Mark only one oval.

- 13
- 14
- 15
- 17

54. 46.In 1-to-4 demultiplexer, how many select lines are required?

Mark only one oval.

- 2
- 3
- 4
- 1

55. 47.The Boolean function A + BC is a reduced form of _____.

Mark only one oval.

- AB + BC
- (A + B)(A + C)
- A'B + AB'C
- (A + C)B

56. 48.If A, B and C are the inputs of a full adder then the carry is given by _____

Mark only one oval.

- A AND B OR (A OR B) AND C
- A OR B OR (A AND B) C
- (A AND B) OR (A AND B)C
- A XOR B XOR (A XOR B) AND C

57. 49.When two 16-input multiplexers drive a 2-input MUX, what is the result?

Mark only one oval.

- 2-input MUX
- 4-input MUX
- 16-input MUX
- 32-input MUX

58. 50.Which of the following circuits come under the class of combinational logic circuits? 1. Full adder 2. Full subtractor 3. Half adder 4. J-K flip 5. Counter

Mark only one oval.

- 1 only
- 3 and 4
- 4 and 5
- 1, 2 and 3

59. 51.The decimal equivalent of the binary number (1011.011)2 is _____.

Mark only one oval.

- (11.375)10
- (10.123)10
- (11.175)10
- (9.23)10

60. 52.If the number of n selected input lines is equal to 2^m then it requires _____ select lines.

Mark only one oval.

- 2
- m
- n
- 2n

61. 53.The output of a subtractor is given by (if A, B and X are the inputs)_____

Mark only one oval.

- A AND B XOR X
- A XOR B XOR X
- A OR B NOR X
- A NOR B XOR X

62. 54.A disadvantage of DTL is

Mark only one oval.

- The input transistor to the resister
- The input resister to the transistor
- The increased fan-in
- The increased fan-out

63. 55.A combinational circuit that selects one from many inputs are _____

Mark only one oval.

- Encoder
- Decoder
- Demultiplexer
- Multiplexer

64. 56.EncoderDecoderDemultiplexerMultiplexer

Mark only one oval.

- S = R = 0
- S = 0, R = 1
- S = 1, R = 0
- S = R = 1

65. 57.TTL is called transistor–transistor logic because both the logic gating function and the amplifying function are performed by _____.

Mark only one oval.

- Resistors
- Bipolar junction transistors
- One transistor
- Resistors and transistors respectively

66. 58.The excess-3 code for 597 is given by _____.

Mark only one oval.

- 100011001010
- 100010100111
- 10110010111
- 10110101101

67. 59.Resistor–transistor logic (RTL) is a class of digital circuits built using _____ as the input network and _____ as switching devices.

Mark only one oval.

- Resistors, bipolar junction transistors (BJTs)
- Bipolar junction transistors (BJTs), Resistors
- Capacitors, resistors
- Resistors, capacitors

68. 60.Which of the following circuit can be used as parallel to serial converter?

Mark only one oval.

- Multiplexer
- Demultiplexer
- Decoder
- Digital counter