

1B3N17041

(Pages : 2)

Reg. No:

Name:

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester B.Sc Degree Examination, November 2017

BCS3B04 - Fundamentals of Digital Electronics

(2016 Admission onwards)

Max. Time: 3 hours

Max. Marks: 80

PART - A

Answer all questions. Each question carries one mark

1. What is the largest number that can be represented by using an 8-bit binary code?
2. How many representations are there for zero in 2's complement method?
3. How many flip flops are required to construct a mod-64 synchronous counter?
4. If we short both input lines of an AND gate, then that gate acts like a gate.
5. A combinatorial circuit which has many inputs and one output is known as
6. A decoder with n input lines will have output lines.
7. In binary number system the first digit (bit) from right to left is called
8. The output of SR Flip flop will change from 1 to 0 when $S = \dots\dots\dots$ and $R = \dots\dots\dots$
9. A sequential circuit used to store one bit of information is known as
10. An example for combinatorial circuit is

(10 x 1 = 10 Marks)

PART - B

Answer all questions. Each question carries two marks

11. Define EXOR gate with the help of a truth table.
12. What you mean by fan in?
13. Define maxterm.
14. What do you mean by D-flip flop.
15. Define an S-R Latch.

(5 x 2 = 10 Marks)

PART - C

Answer any five questions. Each question carries four marks

16. Find X and Y in the following equations.
(a) $(276)_8 = (X)_2$
(b) $(25)_{10} = (Y)_{16}$
17. State and prove De Morgan's Law.
18. Draw a logic circuit for the following boolean expression.
 $(Q.S) + (Q'.S') + (P.R)$
19. Simplify the following expression by using the laws of logic.
 $AB(A + B)(B + B)$
20. Explain the working of a parallel binary adder.
21. Show that NAND gate is a universal gate.
22. How do we construct a T-Flip flop by using JK Flip flop?
23. Briefly explain about the Asynchronous inputs of flip flops.

(5 x 4 = 20 Marks)

PART - D

Answer any five questions. Each question carries eight marks

24. Explain in detail about
(a) sign and magnitude representation
(b) 1's complement representation
(c) 2's complement representation
25. Simplify the following SOP expression using K-map and draw the logic circuit of the simplified form.
 $f(A,B,C,D) = \sum (0,2,5,7,8,10,13,15)$
26. Explain in detail about MUX and DEMUX.
27. Construct a shift register by using SR flip flops.
28. Explain the working of a Master Slave JK Flip flop.
29. Explain the working of a BCD to 7-segment decoder.
30. Construct a 3-bit asynchronous down counter.
31. Explain in detail about D/A conversions.

(5 x 8 = 40 Marks)

1B3N17042

(Pages : 2)

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester B.Sc Degree Examination, November 2017

BCS3B05 - Visual Programming using VB .NET

(2016 Admission onwards)

Max. Time: 3 hours

Max. Marks: 80

SECTION A

Question 1 to 10. Answer all questions. Each carries one mark

1. What are the components of Common Language Runtime?
2. What is meant by garbage collection?
3. What is the base class in .NET?
4. What do you mean by namespace?
5. Define assembly in .NET.
6. What is an abstract class?
7. What is a boot strapper application?
8. Differentiate between System.String and System.String Builder classes?
9. What is TRACE in VB.NET?
10. Define managed code.

(10 x1=10 Marks)

SECTION B

Question 11 to 15. Answer all questions. Each carries two marks

11. List and explain various methods of String class in Visual Basic.
12. What are the steps involved in binding control to a data source?
13. How do you create password control in VB.NET?
14. Explain Menu component of Visual Basic IDE.
15. Explain important properties of form object.

(5 x 2=10 Marks)

SECTION C

Question 16 to 23. Answer any *FIVE* questions. Each carries *four* marks

16. Give a note on .NET framework architecture.
17. Differentiate between structured and unstructured exception handling in VB.NET.
18. Explain the important properties and methods of List Box control.
19. Write a VB code to illustrate argument passing mechanisms in VB.NET.
20. Explain Date Time class in VB.NET with relevant properties and methods.
21. What are events? Explain the concept of VB.NET as an event driven programming language.
22. Write the VB code to illustrate Digital Stop Watch application .
23. Explain conditional statements in VB.NET with suitable examples.

(5 x 4=20 Marks)

SECTION D

Question 24 to 31. Answer any *FIVE* questions. Each carries *eight* marks

24. Explain VB .NET as an object oriented programming language.
25. Explain type conversion functions in VB.NET.
26. Explain ADO.Net object model.
27. Write a VB code to illustrate base conversion from decimal to binary, octal and hexadecimal.
28. Write VB code to generate electricity bill.
29. Explain simple and complex binding of data to controls using ADO.NET.
30. Explain the procedures involved in binding data to XML data in VB.NET.
31. Explain the various controls in Visual Basic with appropriate properties ,methods and events.

(5 x 8=40 Marks)

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
Third Semester B.Sc CS/BMMC Degree Examination, November 2017
A12 - General Informatics
(2016 Admission onwards)

Max. Time: 3 hours

Max. Marks: 80

Section A (one word)**I. Answer all questions. Each question carries 1 mark.**

1. The function of ALU is:
 - a. To do arithmetic operation
 - b. To control other parts of a computer
 - c. To do arithmetic and logic operations
 - d. To produce output
2. The resolution of a monitor is governed by the :
 - a. Size of the screen
 - b. Number of pixels
 - c. Cost of the monitor
 - d. Contrast of pixels on the screen
3. GPS satellite circle the earth ----- times a day
 - a. Three times
 - b. Six times
 - c. Two times
 - d. Once in a month
4. This is a plastic card embedded with a computer chip that stores and transacts data between users:
 - a. Credit card
 - b. Debit card
 - c. Smart card
 - d. None of these
5. What is podcast?
 - a. Clip or audio or video
 - b. E – mail service
 - c. messaging tool
 - d. web conferencing
6. An online journal or chronological postings of thoughts and opinion is an:
 - a. Podcast
 - b. Wiki
 - c. Blog
 - d. IM chat
7. IT Act in India amended in:
 - a. 2000
 - b. 2008
 - c. 2004
 - d. None of these
8. Linux is a type of ----- software
 - a. Shareware
 - b. Commercial
 - c. Open source
 - d. Adware
9. Fedora, a community distribution sponsored by
 - a. Red Hat
 - b. Oracle
 - c. Novell
 - d. None of the above
10. AbiWord is a:
 - a. Word processor
 - b. Database
 - c. Spread sheets
 - d. None of these

(10 x 1= 10 Marks)

Section B (short answer)

II. Answer any ten questions. Each question carries 2 marks.

11. What are ports?
12. What is web portal?
13. What is URL?
14. What do you mean by information?
15. What is CDSS?
16. What is mobile computing?
17. What do you mean by tacit knowledge?
18. What is Plagiarism?
19. What is TRIP?
20. What do you Linux Distribution?
21. What is Software Repository?
22. What is Kernel?

(10 x 2 = 20 Marks)

Section C (paragraph)

III. Answer any five questions. Each question carries 6 marks.

23. State the basic structure of a personal computer?
24. Briefly explain the limitations of a computer?
25. What is network? What are its advantages?
26. Write a note on INFLIBNET?
27. What are Virtual classrooms?
28. Discuss the factors affecting the use of IT in teaching and learning?
29. What is meant by cyber security?
30. Discuss the manner in which cyber-crime is committed?

(5 x 6 = 30 Marks)

Section D(essay)

IV. Answer any two questions. Each question carries 10 marks

31. Explain how information technology created new opportunities and threats in industries?
32. What is Linux? Give a brief history of the development of Linux operating system?
33. Explain the application of IT in teaching and learning?

(2 x 10 = 20 Marks)