BCA Second Semester Examination May - 2016

(Faculty of Science)

SECOND PAPER

Internet and Web Technologies

Paper Code : 2721

Time Allowed: Three Hours **Maximum Marks : 75**

No supplementary answer book will be given to any candidate. Hence the candidates should write the answers precisely in the main answer book only.

(Attempt all six questions)

Part I (Question No. 1& 2) is compulsory & Part II (Question No. 3, 4, 5 & 6) has internal choice.

PART-I

1. Answer any 10 questions. Each question carries 1 mark. **10x1= 10**
(Words limit upto 20 words each)
   a) What do you mean by Domain Registration ?
   b) What do you mean by Paired Tags ?
   c) Explain the significance of any two predefined objects of Java Script.
   d) Name three ways to define a colour in HTML ?
   e) What is DHTML ?
   f) What is a Java Script Object ?
   g) What is the concept behind Image Map ?
   h) What is the difference between parameterized and no-parameterized tags ?
   i) What is Type Casting ?
   j) What is DIV tag ?
   k) What is Hyperlink ?
   l) What is DOM Hierarchy ?

2. Attempt all questions. Each question carries 5 marks. **4x5=20**
(Word limit upto 50 words each)
   a) Explain the role of a Web Server.
   b) Why we use Java Script with HTML ? Explain.
   c) What is the difference between 'form get' and 'form post' ?
   d) What is Frameset ? How can we use them ? Explain with a suitable example.

P.T.O

PART-II

UNIT I

3. What is TCP/IP ? Discuss various services provided by TCP/IP. **10**

OR

What are tables in HTML ? Discuss various tags to create tables in HTML. **10**

UNIT II

4. What is CSS ? Explain different types of Style Sheets with their elements. Explain your answer with suitable examples. **10**

OR

What is XML ? List out the advantages of XML. Explain data revolution of XML document. **10**

UNIT III

5. How arrays can be used in Java Script ? Give a suitable example. Also explain advantages of Java Script. **10**

OR

Explain functions in Java Script. How user defined functions can be defined and used ? **10**

UNIT IV

6. Explain the following objects of DOM : **10**
   (a) Window
   (b) Navigator
   (c) History
   (d) Form
   (e) Frames

OR

Explain the following : **10**
(a) Form Validation in Java Script
(b) Event Handling in Java Script

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BCA Second Semester Examination – May 2016

SECOND PAPER

Object Oriented Programming Concepts

Paper Code:-2711

Time Allowed: Three Hours **Maximum Marks.70**

No supplementary answer book will be given to any candidate. Hence the candidates should write the answers precisely in the main answer book only.

(Attempt all six questions.)

Part I (Question No. 1& 2) is compulsory & Part II (Question No. 3, 4, 5 & 6) has internal choice.

PART-I

1. Answer any ten questions. Each question carries 1 mark. **10x1= 10**
(Words limit up to 20 words each)

a) What are the basic concepts of OOPs?

b) What is a Class?

c) What are tokens in C++?

d) What are the operators available in C++?

e) What is Dynamic Binding?

f) What is an Inline Function?

g) What is Copy Constructor?

h) What is Class Templates?

i) What is Pure Virtual Function?

j) What is Public Class?

k) What is Static Data Member?

l) What are Friend Functions?

2. Answer all the questions. Each question carries 5 marks. **4x5 = 20**
(Words limit up to 50 words each)

a) Explain the advantages of OOPs.

b) Explain copy constructor with example.

c) Write short note on polymorphism.

d) Explain the following:
i) Inheritance
ii) Type Conversions

PART-II

Unit-I

3. (i) Explain characteristics of procedure oriented language. 7

(ii) What do you mean by Enumerated Data type? 3

OR

Write a program in C++ to find given number is prime or not prime. 10

Unit-II

4. Explain constructor with suitable example. 10

OR

Write a program to add two matrix using the constructor. 10

Unit-III

5. Explain the rules for operator overloading. 10

OR

What is Polymorphism? Explain the different types of Polymorphism. 10

Unit-IV

6. (i) What are Exceptions? What are the two types of exceptions? Explain Exception handing model. 6

(ii) Write an Example program for class template. 4

OR

Explain the following file functions with example. 10

a) f open ( )
b) f close ( )
c) f getw ( )
d) f seek ( )

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BCA Second Semester Examination May-2016

THIRD PAPER

Digital Electronics & Circuits

Paper Code:- 2731

Time Allowed: Three Hours **Maximum Marks.70**

(1) No supplementary answer book will be given to any candidate. Hence the candidates should write the answers precisely in the main answer book only.

(2)All the parts of one question should be answered at one place in the answer book.

(Attempt all six questions.)

Part I (Question No. 1& 2) is compulsory & Part II (Question No. 3, 4 , 5 & 6) has internal choice.

Part-I

1. Answer any 10 questions. Each question carries 1 mark. **10x1= 10**

(Word limit up to 20 words each)

a) Write the truth table and symbol for XOR gate.

b) Explain miniterms and maxterms in digital Electronics.

c) What is Karnaugh Map ?

d) What do you understand by Field-effect Transistor ?

e) Draw the circuit for Diode Transistor Logic (DTL) NOR gate.

f) What is Race Around Condition ?

g) What is the difference between Multiplexer and Demultiplexer ?

h) Define Decoder and Encoder.

i) Explain T-type flip-flop.

j) What are combinational logic circuits ?

k) Define Sequential Logic circuits.

l) Write the drawback of J-K flip-flop.

2. Answer all the questions. Each question carries 5 marks. **4x5 = 20**

(Words limit up to 50 words each)

a) What are logic gates ? Obtain NOT, AND, OR gates with the help of NOR logic gate.

b) Explain the working of Resistance Transistor Logic (RTL) NOR gate.

c) Explain the modes of operation of Shift Register.

d) Explain the working of decimal to BCD priority Encoder.

Part-II

Unit-I

3. (a) Plot the following Boolean function on a Karnaugh map and simplify it. 5

$F = m_8 + m_9 + m_{10} + m_{11} + m_{12} + m_{13} + m_{14} + m_{15}$

(b) Prove that all logic operations can be performed using NAND gates. 5

OR

(a) Simplify the following Boolean function in
(i) Sum of Products and (ii) Products of Sums $F(A,B,C,D) = \sum(0,1,2,5,8,9,10)$ 7

(b) Draw the logic diagram for the following expression. 3

$\overline{A+B} \oplus \overline{A.B} = R$

Unit-II

4. (a) Explain how using P-N diodes and transistor the following gate operations can be obtained. 5
(i) AND (ii) OR (iii) NOT (iv) XOR

(b) Write the important characteristics of ECL devices. 5

OR

(a) Explain the I-V characteristic of a Junction Field Effect Transistor (JFET). 5

(b) Write the advantage of CMOS over the TTL at the following features 5
(i) Fan in (ii) Fan out (iii) Noise Margin (iv) Propagation delay (v) Power dissipation.

Unit-III

5. (a) Explain the construction and working of 16 : 1 multiplexer. 5

(b) Explain the working of BCD to seven segment Decoder driver. 5

OR

(a) Draw the pin-out diagram for IC 74180 parity checker and explain the working of it. 5

(b) Explain the construction and working of 1 : 16 Demultiplexer. 5

Unit-IV

6. (a) Explain the working of JK flip flop. Describe its merits over clocked R-S flip flop. 5

(b) Explain the construction and working of shift-right register using D-flip flop. 5

OR

(a) Explain the construction and working of UP/DOWN counter. 5

(b) Explain D-type flip flop. Show that a D-type flip flop can be converted to a JK flip flop. 5

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BCA Second Semester Examination May-2016

FOURTH PAPER

Computer Architecture

Paper Code:- 2741

Time Allowed: Three Hours **Maximum Marks.70**

(1) No supplementary answer book will be given to any candidate. Hence the candidates should write the answers precisely in the main answer book only.

(2)All the parts of one question should be answered at one place in the answer book.

(Attempt all six questions.)

Part I (Question No. 1& 2) is compulsory & Part II (Question No. 3, 4 , 5 & 6) has internal choice.

Part-I

1. Answer any 10 questions. Each question carries 1 mark. **10x1= 10**
(Word limit up to 20 words each)

a) What is an Encoder ?

b) Write De-Morgan's laws of Boolean Algebra.

c) What do you mean by System Bus ? List different types of buses.

d) Draw the truth table and Circuit of exclusive OR (XOR) gate.

e) What is serial Communication ?

f) What is Sequential Circuits ?

g) What is edge triggered flip-flops ?

h) What are the various types of operations required for instructions ?

i) What is an absolute addressing mode ?

j) What is virtual address space ?

k) What is a Cache Memory ? Explain its role.

l) What do you mean by Interrupts ?

2. Answer all the questions. Each question carries 5 marks. **4x5 = 20**
(Words limit up to 50 words each)

a) What is Logic Gate ? Explain various logic gates with their logic operations.

b) What is JK Flip-Flop ? What are its advantages over SR flip-flop ?

c) What is an instruction ? Explain instruction execution cycle.

d) What is I/O Processor ? Explain I/O Processing through I/O Processor.

Part-II

Unit-I

3. What do you understand by Combinational logic circuits ? How combinational Ckts are designed ? Explain procedure to construct segment decoder. **10**

OR

(a) Explain full subtractor with the help of logic diagram and truth table. **5**

(b) What is Multiplexer ? Describe 2x4 multiplexer with logic diagram. **5**

Unit-II

4. Explain S-R Flip-Flop with their execution tables and logic circuit diagrams. **10**

OR

(a) Differentiate between Asynchronous and Synchronous counters. **5**

(b) Explain working of BCD counter with the help of logic diagram. **5**

Unit-III

5. How an Instruction can be defined ? Discuss Instruction Format, instruction types and instruction sequencing in detail. **10**

OR

What is addressing mode ? Why do computer system require addressing mode techniques ? Explain Relative addressing mode with an example. **10**

Unit-IV

6. What is Direct Memory Access ? How DMA Works ? Explain DMA Controller in detail with its functional diagram. **10**

OR

Write short note an any two of the following : **2x5=10**

(a) Virtual Memory & Paging

(b) Associative Memory Concepts

(c) Memory Organization & Hierarchy

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