No. of Printed Pages : 03 Roll No. .....

B211

B.C.A. EXAMINATION, 2020

(Second Semester)

(Main & Re-appear)

BCA

BCA102B

DIGITAL CIRCUITS AND LOGIC DESIGN

Time : 3 *Hours*] [*Maximum Marks :* 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting *one* question from each Unit. Q. No. **1** is compulsory. All questions carry equal marks.

(Compulsory Question)

1. (a) Define Digital Systems. **3**

(b) What are the basic digital logic gates ? **3**

(c) What are the applications of octal number system ? **3**

(d) Write the Hamming (7, 4) code for 0000 using even parity. **3**

(e) Find the dual of A.B.C.D.' + A.B'.C'.D + A'. B'.C'.D. **3**

Unit I

2. (a) Answer the following questions : **7**

(i) Find 2's Complement Representation of $(-72)_{10}$.

(ii) Convert the binary number $(1101110.0110)_2$ to decimal.

(iii) Convert $(AEF2.B6)_{16} = (\ldots\ldots\ldots\ldots)_2$.

(b) Perform the following subtraction using 1's complement method using 8-bit representation : **8**

(i) $(39)_{10} + (-67)_{10}$

(ii) $(-75)_{10} - (45)_2$

3. (a) Briefly describe salient features of the ASCII and EBCDIC codes in terms of their capability to represent characters and suitability for their use in different platforms. **7**

(b) Determine the Gray code equivalent of $(10011)_2$ and the binary equivalent of the Gray code number 110011. **8**

Unit II

4. (a) Minimize the following Boolean expression using Karnaugh Map (K-MAP) and draw the simplified logic circuit diagram : **7**

$$Y = \Sigma m\ (0, 1, 5, 9, 13, 14, 15) + d\ (3, 4, 7, 10, 11).$$

(b) State the distributive property of Boolean algebra. **8**

5. (a) Simplify the following Boolean functions to a minimum numbers of literals : **8**

(i) $x + x'y$

(ii) $x\ (x' + y)$

(iii) $x'y'z + x'yz + xy'$

(iv) $xy + x'z + yz$

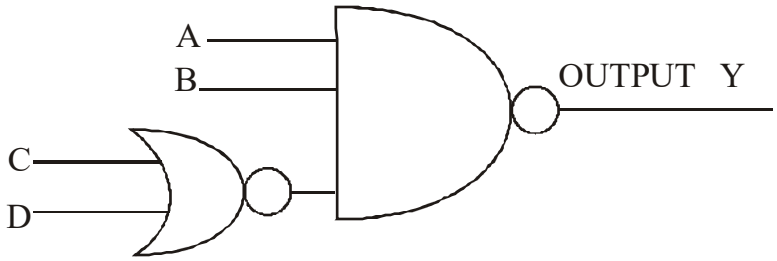
(b) State and prove De Morgan's theorems with the help of truth tables. **7**

Unit III

6. (a) Generate AND, OR, NOT, EXOR and EX-NOR gate using NAND as a universal gate. **7**

(b) Reduce the expression $F = \Sigma m\ (0, 1, 3, 5, 6)$ using K-map and implement using NOR gates only. **8**

7. (a) For a given logic circuit, if A = B = 1 and C = D = 0, find output Y. **6**



(b) It is proposed to construct an eight-input NAND gate using only two-input AND gates and two-input NAND gates. Draw the logic arrangement that uses the minimum number of logic gates. **9**

Unit IV

8. (a) Design 4-to-16 Decoder from two 3-to-8 Decoders. **6**

(b) Explain full subtractor and construct full subtractor using half subtractors. **5**

(c) Draw logic circuit for 2-Bit Magnitude Comparator. **4**

9. (a) Design 1-bit Full Adder using 3 × 8 Decorder. **7**

(b) Derive and draw logic circuit for BCD to Excess-3 Code converter. **8**

No. of Printed Pages : 02 **Roll No. .....**

B212

B.C.A. EXAMINATION, 2020

(Second Semester)

(Main & Re-appear)

BCA

BCA104B

Programming in C

Time : 3 *Hours*] [*Maximum Marks :* 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. Q. No. **1** is compulsory. All questions carry equal marks.

1. (a) What is function of decision table ? Explain.

(b) What do you understand by Macro ?

(c) What is Break Statement ? Explain.

(d) Differentiate between Union and Structure.

(e) What is Sorting ? Explain. **3×5=15**

Unit I

2. Explain the following : **15**

(a) Structure and Modular Programming

(b) Unformatted and Formatted I/O function in C

(c) Preprocessor Directives.

3. (a) What is type conversion ? Explain it with the help of example. Also discuss the different types of error. **8**

(b) Differentiate between High Level Language and Assembly Language. Also list their merits and demerits. **7**

Unit II

4. How does a function work ? Explain how arguments are passed and results are returned ? Also differentiate between library and user defined functions. **15**

5. What is switch( ) statement ? Explain it with the help of an example. Why break statement is essential in switch( ) statement ? Which other function or keywords can be used in place of the break statement. Also list the limitations of switch( ) statement. **15**

Unit III

6. What is Array ? Can we store values and address in the same array. Explain. Mention the difference between the character array and integer array. Also write a program to read 10 integers in an array and find the largest and smallest number. **15**

7. What are Pointers ? Why are they important ? Explain the features of pointer. Also discuss the relation between an array and a poitner. **15**

Unit IV

8. Explain the different types of storage classes in C language. Also discuss the file management in C. **15**

9. What is Searching ? Explain the binary and linear search in detail. **15**

No. of Printed Pages : 02 Roll No. .....

B503

B.B.A. EXAMINATION, 2020

(Second Semester)

(Main & Re-appear)

(BBA)

BBA106B/MBAD106

MACRO ECONOMICS FOR ANALYSIS AND POLICY

Time : 3 *Hours*] [*Maximum Marks :* 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting *one* question from each Unit. All questions carry equal marks. Part A will be compulsory.

Part A **5×3=15**

1. (i) Discuss the various causes of Boom and recession in business cycle.
(ii) Discuss the wealth effect of debt-financing.
(iii) Distinguish between the regressive, progressive and propositional tax system.
(iv) Bring out the limitations of multiplier.
(v) Discuss the main causes of rapid growth of public expenditure.

Part B

Unit I

2. What do you understand by the circular flow of income ? Explain with the help of two-sector model. **15**

3. Define National Income. What are the different methods of measuring national income of a country ? **15**

Unit II

4. Define IS curve. What are the factors that determine the slope of IS curve ? **15**

5. Examine the basic assumptions and characteristics of Keynesian theory of Income and Employment. **15**

Unit III

6. Discuss the various canons of Taxation. What are the modern views on a good taxation system ? **15**

7. What is meant by Fiscal Policy ? How can fiscal policy help in stabilization ? **15**

Unit IV

8. Explain the role of monetary policy in the economic development of a country. **15**

9. Explain the process of creation of credit by Commercial Banks. What are the limitations on the credit creating power of banks ? **15**

No. of Printed Pages : 02 **Roll No. .....**

B214

B.C.A. EXAMINATION, 2020

(Second Semester)

(Main & Re-appear)

BCA

BCA108B

DESKTOP PUBLISHING

Time : 3 *Hours*] [*Maximum Marks :* 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting *one* question from each Section. Q. No. **1** is compulsory. All questions carry equal marks.

1. (a) What is lithography ? **15**

(b) Explain about offset printing.

(c) What are the elements of visual communication ?

(d) What is the importance of image size ?

(e) Explain the concept of path.

(f) What are palettes ?

(g) Differentiate between acquiring and importing images.

(h) What is vector graphics ?

(i) Write any *five* tools of Corel Draw.

(j) What do you mean by giving effects ?

Section I

2. What are different printing processes ? Explain in detail. **15**

3. (a) Explain different types of printing in detail. **7**

(b) Differentiate between letterpress and offset printing. **8**

Section II

4. What are different elements and principles of design and visual communication ? **15**

5. (a) What do you mean by graphic design ? **7**

(b) What is its importance in visual communication ? **8**

Section III

6. (a) What is Vector graphics ? **7**

(b) Explain various types of path in Photoshop. **8**

7. (a) Explain any *four* Photoshop tools in detail. **7**

(b) Explain Rendering Effect in photoshop. **8**

Section IV

8. What is Corel Draw ? What are its applications ? **15**

9. (a) Elaborate weld, intersection of objects and snapping. **7**

(b) Explain Transformation in detail. **8**