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E-211

B.C.A. EXAMINATION, Dec. 2017

(Fifth Semester)

(B. Scheme) (Main & Re-appear)

(BCA)

BCA-301-B

PRINCIPLES OF SOFTWARE

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. Answer to the point. Please ensure that you have been supplied correct and complete question paper, no complaint in this regard will be entertained after the completion of examination.

Unit I

1. Explain the spiral model for software development. List its advantages and disadvantages. **15**

2. Explain COCOMO model for cost estimation of software project. **15**

Unit II

3. Write notes on the following : **15**

(a) DFD

(b) Data Dictionary.

4. What is Coupling ? Explain different types of coupling in detail. **15**

Unit III

5. Explain the structured programming methodology in detail. List its advantages and disadvantages. **15**

6. Consider a simple program to classify a triangle. Its inputs is a triple of positive integers (say x, y, z) and the data type for input parameters ensures that these will be integers greater than 0 and less than or equal to 100. The program output may be one of the following words :

[Scalene; Isosceles; Equilateral; Not a triangle]

Design the boundary value test cases. **15**

Unit IV

7. Write short notes on the following : **15**

(a) Bottom-up *vs* Top-Down approach for software testing.

(b) Alpha Testing *vs* Beta Testing.

8. Write short notes on the following : **15**

(a) Maintenance Process

(b) Maintenance Characteristics.

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E-212

B.C.A. EXAMINATION, Dec. 2017

(Fifth Semester)

(B. Scheme) (Main & Re-appear)

(BCA)

BCA-303-B

COMPUTER GRAPHICS

Time : 3 *Hours*] [*Maximum Marks :* 100

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. All questions carry equal marks.

Unit I

1. (a) What is computer graphics ? Specify its applications. **10**

(b) Explain the following terms in detail : **10**

(i) Pixel

(ii) CRT

(iii) Aspect ratio

(iv) Refresh Rate.

2. (a) What are Raster Scan and Random Scan Disply ? Explain which of the uses concept of lookup table. **8**

(b) Distinguish between Graphics Input Device and Hard Copy Devices. **12**

Unit II

3. (a) Explain DDA Algorithm in detail with suitable examples. **10**

(b) Derive and explain Bresenham's circle drawing algorithm. **10**

4. Explain in detail Ellipse-Generating Algorithms. **20**

Unit III

5. (a) Explain 2D Scaling, Rotation, Shearing and Reflection with examples. **15**

(b) What is Concatenation ? How does it works in Transformations ? **5**

6. (a) What is window to view port coordinate transformation ? Explain. **10**

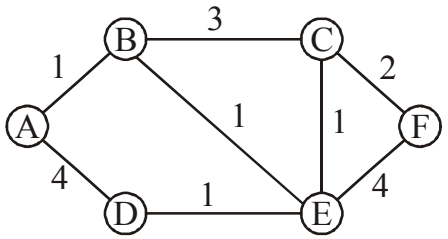
(b) Explain Cohen-Sutherland line clipping algorithm with suitable examples. **10**

Unit IV

7. What are Homogenous Coordinates in 3D Transformations ? Derive 3D transformation matrices for reflection about the three reference plan. **20**

8. Explain Quadtree and Octree data structure. **20**

8. What is Routing. Explain shortest path routing algorithm with the help of an example given below : **15**



E-213

B.C.A. EXAMINATION, Dec. 2017

(Fifth Semester)

(B. Scheme) (Main & Re-appear)

(BCA)

BCA-305-B

DATA COMMUNICATION AND NETWORKS

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.

Unit I

1. Differentiate between the following : **7½×2=15**

(a) Guided and Wireless Media

(b) Frequency Division and Time Division Multiplexing.

2. (a) Name and describe the components of data communication system. **10**

(b) List the advantages of a multipoint connection over point-to-point connection in a network. **5**

Unit II

3. Describe TCP/IP reference model in detail. **15**

4. (a) Name and explain the layer of OSI reference model which deals with error control. **10**

(b) What are repeaters and why do we need them ? **5**

Unit III

5. (a) What is a minimum Hamming Distance ? If we want to detect two-bit errors, what should be the minimum Hamming Distance. **7**

(b) Define framing and why it is needed. Explain the methods used in framing. **8**

6. Explain ALOHA and bring out the differences in 1-peristent, p-persistent MAC sublayer protocols. **15**

Unit IV

7. (a) Draw comparison between Adaptive and Deterministic Routing. **8**

(b) Write down the principles of congestion control. **7**

(b) List five uses of visual data manager supported by VB. **5**

8. What are the advantages of ADO data control ? Name four different cursor types in ADO and describe them briefly. **15**

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E-214

B.C.A. EXAMINATION, Dec. 2017

(Fifth Semester)

(B. Scheme) (Main & Re-appear)

(BCA)

BCA-307-B

VISUAL PROGRAMMING

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. All questions carry equal marks.

Unit I

1. (a) What is Constant ? Explain named constant and intrinsic constant. **8**

(b) Explain the utility of Watch window in VB IDE. **7**

2. (a) Explain the procedure to design a user interface in VB. **9**

(b) Explain the utility of open and font dialog boxes in VB. **6**

Unit II

3. Write the procedure to create a VB application to compute and display the grades of students based upon the marks obtained in three subjects. Read marks of three subjects using three text boxes and show grades when user clocks a command button. Use the criteria : **15**

Marks	**Grades**
>= 75	Distinction
>= 60	Ist Division
>= 50	2nd Division
>= 40	Pass
Otherwise	fail

4. (a) Explain modal and modeless dialogs with examples. **8**

(b) Explain the difference between sub-procedure and function procedure. **7**

Unit III

5. Write a program having one command button and on pressing the button it should display lables and text boxes of Name, age, Roll No. and Address. **15**

6. (a) Explain the utility of MDI forms with suitable examples. **10**

(b) Describe document view architecture in detail. **5**

Unit IV

7. (a) Explain the procedure to execute stored procedures using Remote data object in a database application. **10**

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E-215

B.C.A. EXAMINATION, Dec. 2017

(Fifth Semester)

(B. Scheme) (Main & Re-appear)

(BCA)

BCA-309-B

WEB TECHNOLOGIES

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. All questions carry equal marks.

Unit I

1. What is .NET Technology ? Explain the origin of .NET and its platform. **15**

2. What is a .NET framework ? Explain its building blocks. **15**

Unit II

3. Explain role of MSIL and Meta data in Visual studio .Net. **15**

4. Explain the following :

(a) Interoperability **8**

(b) Managed Code. **7**

Unit III

5. Explain the features of C#. Explain the various types of control statements used in c#. **15**

6. Explain in C# : **15**

(a) Polymorphism

(b) Inheritance.

Unit IV

7. What is ADO ? Explain the components of ADO .Net. **15**

8. Write short notes on the following :

(a) Data Adapter **8**

(b) Data Reader. **7**