

1484/IV

B.C.A. (PART-II) EXAMINATION, 2022-23

(Fourth Semester)

Paper : IV

BCA-404 : Software Engineering

Time : Three Hours]

[Maximum Marks : 70

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- Note:** (i) Answer **Five** Questions in all.
- (ii) Question No.1 is **Compulsory**.
- (iii) Answer remaining **four** questions, selecting **two** questions from each Section A and B.
- (iv) Simple scientific calculator and log tables allowed.
- (v) All questions carry equal marks.

1. Answer all parts of the following :

- (a) Define software engineering and its characteristics.

(b) Discuss the various phases of waterfall Model.

(c) What is prototype model ?

(d) What is E-R diagram ?

### SECTION - A

2. What is software testing ? Explain black box testing and white box testing.

3. Explain general template of Software Requirement Specification / IEE format for SRS. What are the characteristics of good SRS ?

4. What is DFD ? Explain various rules for constructing DFD. Draw and explain the 0-level and 1-level DFD for Hotel Reservation System.

5. Define Software Design in Software Engineering. Explain the types of Software Design level.

### SECTION - B

6. (a) What do you mean by Decision - Table in Software Engineering ? Explain with suitable example.

(b) Define the Software Development Life Cycle (SDLC) and its various phases.

7. (a) What is flow chart ? Draw a flow chart to input two numbers and find largest between them.

(b) Define Software Quality Assurance (SQA) framework / SQA activities.

8. (a) What is iterative enhancement model in SDLC ?

(b) Define top down design and bottom up design approach.

9. Write notes on any two of the following :

- (a) Coupling and Cohesion
- (b) Spiral Model
- (c) Structure Chart



Anand Kumar

BCA 403

B.C.A. (PART-II) EXAMINATION, 2023-24

(Fourth Semester)

Paper : III

Computer Graphics

Time : Three Hours]

[Maximum Marks : 70

Note: (i) Answer Five Questions in all.  
(ii) Question No. 1 is Compulsory.  
(iii) Answer remaining four questions, selecting two questions from each Section A and B.  
(iv) All questions carry equal marks.

1. Answer all parts of the following :
  - (a) What do you understand by Computer Graphic Image Processing ?
  - (b) Define pixel and resolution.
  - (c) What is basic concept of View Plane ?
  - (d) Define convex and concave polygon.

#### Section-A

2. Explain the Cathode Ray Tube (CRT) monitor display.
3. What is DDA ? Draw a line having end points (20, 10) and (30, 20) using DDA line drawing algorithm.

4. Derive the Midpoint circle algorithm for drawing a circle with suitable example.
5. What is projection in 3D viewing. Distinguish between parallel and perspective projection ?

### **Section-B**

6. Differentiate between the following :
  - (a) Shadow mask and Direct view storage tube monitor.
  - (b) Differentiate between interactive and passive devices.
7. (a) Explain Scan-Line Polygon Fill Algorithm with example.  
(b) Explain Cohen-Sutherland Polygon Clipping Algorithm with example.
8. (a) What is Geometric Transformation ? Explain Reflection and Shear ?  
(b) Briefly discuss about Matrix Representation and Homogenous Coordinate 2D transformation.
9. Write notes on any two of the following :
  - (a) Graphics softwares
  - (b) Colour Models
  - (c) Vanishing Points in projection

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