

**Exam. Code : 107206**

**Subject Code : 1680**

**Bachelor of Computer Application (BCA) 6<sup>th</sup> Semester  
(Batch 2020-23)**

**COMPUTER GRAPHICS**

**Paper—I**

Time Allowed—3 Hours] [Maximum Marks—75

**Note** :—Attempt **FIVE** questions in all, selecting at least **ONE** question from each section. The fifth question may be attempted from any section. All questions carry equal marks.

**SECTION—A**

1. Which are various applications of Computer Graphics in the Education and Entertainment Industry ?
2. Explain the procedure of Random Scan and Raster Scan.

**SECTION—B**

3. Write and explain any one Circle generating algorithm.
4. What do you mean by transformation ? Explain any three basic transformations along with their matrix representation.

**SECTION—C**

5. Write and explain any line clipping algorithm. Also, write its shortcomings.

6. What is a window and viewport ? What do you mean by window-to-view port transformation ?

#### **SECTION—D**

7. Compare parallel and perspective projections.
8. Explain translation, scaling, and rotation as 3-D transformations.

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## COMPUTER NETWORKS

### Paper-II

Time Allowed—3 Hours]

[Maximum Marks—75

**Note** :— Attempt FIVE questions in all, selecting at least ONE question from each section. The fifth question may be attempted from any section. All questions carry equal marks.

### SECTION-A

1. (a) What are the different types of network ? Discuss in detail. 10
- (b) What are the basic components of a Network ? 5
2. What is the ISO-OSI Model of communication ? What are the different layers of OSI ? Discuss. 15

### SECTION-B

3. (a) What is Modem ? What are its different types ? Discuss in detail. 10
- (b) What is pulse-code modulation ? 5

4. Explain the following :—

(a) Circuit switching

(b) Hybrid switching

2×7.5=15

### SECTION-C

5. (a) What is CSMA ? What are its different protocols ?

Discuss.

10

(b) What is a Token Bus Network ?

5

6. What are the main functions of Data Link Layer ? Explain

Data Link Layer Design Issues in detail.

15

### SECTION-D

7. What is cryptography ? How its different algorithms help

in keeping information secret and safe ?

15

8. What is a network service ? What are different network

services ? Discuss in detail.

15

**Exam. Code : 107206**

**Subject Code : 8111**

**Bachelor of Computer Application (BCA) 6<sup>th</sup> Semester  
(Old Syllb 2021-22)**

**SOFTWARE ENGINEERING**

**Paper-II**

Time Allowed—3 Hours]

[Maximum Marks—75

**Note :** Attempt **FIVE** questions in all, selecting at least **ONE** question from each section. The fifth question may be attempted from any section. All questions carry equal marks.

**SECTION—A**

1. (a) Differentiate between Software Process and Product.  
What are the desirable characteristics of the software process? 5
- (b) How Spiral model handles risk management during product development? 10
2. How Metric is different from Measurement? Explain different metrics used to measure the quality of software. 15

**SECTION—B**

3. How one can plan a software project? Explain the concept of effort estimation using COCOMO Model and Rayleigh Curve during planning of a software project. 15



4. (a) Explain different types of cohesion using suitable example. 7
- (b) Explain the concept of Top-Down and Bottom-Up approaches in system design with suitable example. 8

#### SECTION—C

5. (a) What are different coding styles used in system design to produce high quality product? 10
- (b) Illustrate the significance of Information Hiding in coding. 5
6. (a) What are the different levels of testing? Explain. 5
- (b) Explain the concept of Black-Box Testing in detail. How it is different from White-Box Testing? 10

#### SECTION—D

7. Why the need exists to maintain a system? Illustrate its different types using suitable examples. 15
8. What do you understand by Reverse engineering? How it helps in System Maintenance? 15