### Shri Shankaracharya Institute of Professional Management & Technology Department of Computer Science Engineering

Class Test – II Session- July- Dec 2022 Month- January

Sem-5<sup>th</sup> (A, B & C) Subject- Microprocessor & Interfaces Code- C022511(022)

Time Allowed: 2 hrs

SSIPMT

Time Allowed: 2 hrs

Max Marks: 40

| Note: - A | Attempt any 5 question. All questions carry equal marks.                     |       | i .                        |     |
|-----------|--|-------|----------------------------|-----|
| Q. NO.    | Questions  | Marks | Levels of Bloom's taxonomy | COs |
| 1.        | Explain the Interrupt structure in 8086 and draw the interrupt vector table. | [8]   | Understanding              | CO3 |
| 2.        | Write a program to perform 1 byte BCD addition.                              | [8]   | Apply                      | CO3 |
| 3.        | Explain 8257 DMA Controller functional block diagram.                        | [8]   | Understanding              | CO4 |
| 4.        | Explain and draw minimum mode of 8086.                                       | [8]   | Understanding              | CO4 |
| 5.        | Draw the interface of two 4k*8 EPROM and two 4k*8 RAM with 8086.             | [8]   | Analyzing                  | CO4 |
| 6.        | Explain and draw the block diagram of 80386                                  | [8]   | Understanding              | CO5 |

### Shri Shankaracharya Institute of Professional Management & Technology Department of Computer Science Engineering

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Sem-5<sup>th</sup> (A, B & C) Subject- Microprocessor & Interfaces

Code- C022511(022)

Max Marks: 40

Note: - Attempt any 5 question. All questions carry equal marks.

Levels of Bloom's Marks **COs** Q. NO. Questions taxonomy Explain the Interrupt structure in 8086 and draw the interrupt [8] Understanding CO<sub>3</sub> 1. vector table. CO<sub>3</sub> 2. Write a program to perform 1 byte BCD addition. [8] Apply Explain 8257 DMA Controller functional block diagram. Understanding CO<sub>4</sub> 3. [8] 4. Explain and draw minimum mode of 8086. [8] Understanding CO<sub>4</sub> Draw the interface of two 4k\*8 EPROM and two 4k\*8 RAM with CO<sub>4</sub> [8] Analyzing 5. 8086. Understanding CO<sub>5</sub> [8] 6. Explain and draw the block diagram of 80386

# Shri Shankaracharya Institute of Professional Management & Technology Department of Computer Science & Engineering

Class Test - II Session-July-December, 2022 Month-January 2023

Sem- CSE 5th (Sec- A&B) Subject- Computer Networks Code- C022512(022)

Time Allowed: 2 hrs Max Marks: 40

|      | 2  |       | I evals of                 |     |
|------|--|-------|----------------------------|-----|
| Q.N. | Questions  | Marks | Levels of Bloom's taxonomy | COs |
| Q1   | Describe the need of network layer and explain IPv4 Header format in detail.                           | [8]   | Understanding              | C03 |
| Q2   | Design and explain the distance vector unicast routing protocols with diagram.                         | [8]   | Creating                   | CO3 |
|      | Evaluate the following flow control protocol:  |       |                            |     |
| ପ୍ତ  | <ul><li>a) STOP and WAIT Protocol</li><li>b) Stop and Wait ARQ</li></ul>                               | [8]   | Evaluating                 | C04 |
| 2    | Distinguish open-loop and closed loop congestion control with appropriate diagram.                     | [8]   | Analyzing                  | C04 |
| 62   | How cryptography is important for internet security? Describe symmetric key cryptography with example. | 8     | Understanding              | CO3 |

# Shri Shankaracharya Institute of Professional Management & Technology Department of Computer Science & Engineering

Class Test - II Session-July-December, 2022 Month-January 2023

Sem-CSE 5th (Sec-A&B) Subject- Computer Networks Code-C022512(022)

Time Allowed: 2 hrs Max Marks: 40

Q.N. Note: - All questions are compulsory and carries equal marks.. 2 S S 2 S security? Describe symmetric key cryptography Design and explain the distance vector unicast routing protocols with diagram. congestion control with appropriate diagram. Describe the need of network layer and explain IPv4 Header format in detail. with example. How cryptography is important for internet Distinguish open-loop and closed loop Evaluate the following flow control protocol: a) STOP and WAIT Protocolb) Stop and Wait ARQ Questions Marks <u>®</u> **∞** 8 8 8 Understanding Understanding Evaluating Levels of Bloom's Analyzing taxonomy Creating COS CQ4 CO3 CO3**CQ** COs

## Shri Shankaracharya Institute of Professional Management & Technology Department of Computer Science & Engineering Class Test – II Session- July-Dec 2022 Month-January Sem-CSE 5th [Section -C] Subject- Computer Networks Code- C022512(022) Time Allowed: 2 hrs

Note: - All questions are compulsory and carries equal marks..

| Q.N. | Questions   | Marks    | Levels of Bloom's taxonomy |
|------|---|----------|----------------------------|
| QA   | Explain multicast routine protocol.                                   | <b>8</b> | Understanding              |
| В    | Differentiate between TCP and UDP.                                    | . [8]    | Analyzing                  |
| 8    | Describe the basic services provided by the transport layer.          | [8]      | Understanding              |
| QD   | Define the term link state routing protocol.                          | [8]      | Remembering                |
| QE   | Define the term cryptography and explain its various types in detail. | <u>8</u> | Understanding CO5          |

### Shri Shankaracharya Institute of Professional Management & Technology Separtment of Computer Science & Engineering Class Test—II Session-July-Dec 2022 Month-January

Sem- CSE 5th [Section -C] Subject- Computer Networks Code- C022512(022)
Time Allowed: 2 hrs

Nax Marks: 40

Note: - All questions are compulsory and carries equal marks..

| Q.N. | Questions   | Marks    | Levels of Bloom's taxonomy |
|------|---|----------|----------------------------|
| QA   | Explain multicast routine protocol.                                   | <u>8</u> | Understanding              |
| В    | Differentiate between TCP and UDP.                                    | [8]      | Analyzing                  |
| 2    | Describe the basic services provided by the transport layer.          | [8]      | Understanding              |
| g    | Define the term link state routing protocol.                          | <u>8</u> | Remembering                |
| QE   | Define the term cryptography and explain its various types in detail. | 8        | Understanding              |

| Sem-C   | SSIPMT A   | )  | 1S   |           |
|---|--|--|--|-----------|
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| B&C) Sul  | Class T  | Departn                                      | aracharya  |           |
| oject- Form   | est - II Ses   | nent of Co                                   | Institute  |           |
| Sem- CSE 5th (A, B&C) Subject- Formal Language and Automata Theory Cour- Cozzos (Nay Marks: 40) | Class Test - II Session- Jul-Dec, 2022 Month-January | Department of Computer Science & Engineering | Shri Shankaracharya Institute of Professional Management & Accessory |           |
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| ory Coue-   | Y  | Sur  | TI OF TOO  | at & Toch |
| Max Marks   | C077513/0  |  | 9  | hology    |
| 40  | 3  |  |  |           |

Time Allowed: 2 hrs

| Note: - All | Note: - All questions are compulsory.  |            |                            |     |
|-------------|--|------------|----------------------------|-----|
| Q.N.        | Questions  | Marks      | Levels of Bloom's taxonomy | COs |
| A.          | Discuss Chomsky classification of Grammar?   | 8          | Understanding              | C03 |
| ъ.          | Check whether the following grammar is ambiguous or not (assume string by self) S→ iCtS/iCtSeS C→ b S→ a | · <u>8</u> | Applying                   | CO3 |
| Ç           | Convert CFG into CNF form which is given below S -> bA/aB A -> bAA/aS/a B -> aBB/bS/a                    | [8]        | Evaluating                 | CO3 |
| ָם          | Design a Push Down Automata which accepts $L=\{a^nb^{2n} n\geq 1\}$                                      | 8          | Analyzing                  | C04 |
| 'n          | Obtain a Turing Machine to obtain the language $L=\{0^n1^n2^n n\geq 1\}$                                 | [8]        | Applying                   | C04 |

# Shri Shankaracharya Institute of Professional Management & Technology Department of Computer Science & Engineering Class Test – II Session- Jul-Dec, 2022 Month-January Sem- CSE 5th (A, B&C) Subject- Formal Language and Automata Theory Code- C022513(022) Max Marks: 40

SSIPMT A

| lote: - Ali | Note: - All questions are compulsory.  |       |                            |        |
|-------------|--|-------|----------------------------|--------|
| Q.N.        | Questions  | Marks | Levels of Bloom's taxonomy | COs    |
| A.          | Discuss Chomsky classification of Grammar?   | 8     | Understanding              | CO3    |
| 'n          | Check whether the following grammar is ambiguous or not (assume string by self)  S → iCtS/iCtSeS  C → b  S → a | [8]   | Applying                   | C03    |
| Ç           | Convert CFG into CNF form which is given below S bA/aB A bAA/aS/a B aBB/bS/a                                   | [8]   | Evaluating                 | CO3    |
| ם           | Design a Push Down Automata which accepts $L=\{a^nb^{2n} n\geq 1\}$  | [8]   | Analyzing                  | C04    |
| ıj          | Obtain a Turing Machine to obtain the language $1 = (0^n 1^n 2^n   n > 1)$                                     | [8]   | Applying                   | ç<br>Ç |

### Shri Shankaracharya Institute of Professional Management & Technology Department of Computer Science & Engineering SSIPMT 4

Class Test - II

Session-July-Dec 2022

Month-January

Course Code: C022514(022) Sem- 5th (A, B & C) Subject- Data Analytics with Python

Time Allowed: 2 hrs

Max Marks: 40

| Note: | - All questions are compulsory.  |       | Levels of           |     |
|-------|--|-------|---------------------|-----|
| Q.N.  | Questions  | Marks | Bloom's<br>taxonomy | Cos |
|       |  | ,     | -                   |     |
| Q1    | Illustrate the construction of Bar and Histogram.                      | [8]   | Understanding       | CO5 |
| Q2    | Step by step describe the working of scatter plot.                     | [8]   | Applying            | CO5 |
| Q3    | Briefly describe the function by row and columns in Pandas.            | [8]   | Applying            | CO4 |
| Q4    | Illustrate the window static function of Pandas with suitable example. | [8]   | Understanding       | CO4 |
| Q5    | Explain the uses of Legend in matplotlib library.                      | [8]   | Applying            | CO5 |

### Shri Shankaracharya Institute of Professional Management & Technology **Department of Computer Science & Engineering** SSIPMT 4

Class Test - II

Session- July-Dec 2022

Month-January

Course Code: C022514(022) Subject- Data Analytics with Python Sem-5<sup>th</sup> (A, B & C)

Time Allowed: 2 hrs

Max Marks: 40

| Note: | - All questions are compulsory.  |       | Levels of        |                 |
|-------|--|-------|------------------|-----------------|
| Q.N.  | Questions  | Marks | Bloom's taxonomy | Cos             |
|       |  |       |                  |                 |
| Q1    | Illustrate the construction of Bar and Histogram.                      | [8]   | Understanding    | COS             |
| Q2    | Step by step describe the working of scatter plot.                     | [8]   | Applying         | COS             |
| Q3    | Briefly describe the function by row and columns in Pandas.            | [8]   | Applying         | CO <sup>2</sup> |
| Q4    | Illustrate the window static function of Pandas with suitable example. | [8]   | Understanding    | CO <sup>4</sup> |
| Q5    | Explain the uses of Legend in matplotlib library.                      | [8]   | Applying         | СО              |

### Shri Shankaracharya Institute of Professional Management & Technology

Class Test-II Session-July-Dec 2022 Month-January Department of Computer Science & Engineering

SSIPMT (A)

Sem-CSE 5th (A,B,C) Subject- Computer Graphics Code- C022531(022)

Time Allowed: 2 hrs

| 11000                                  | TORE, The Management of the Control |          | Levels of        |      |
|--|---|----------|------------------|------|
| Q.N.                                   | Questions   | Marks    | Bloom's taxonomy | COs  |
| The second second second second second | Section I   |          |                  |      |
|  | Use the Cohen Sutherland algorithm to clip two lines  |          |                  | }    |
| ₽                                      | P1(35,10)- P2(65,40) and P3(65,20)-P4(95,10) against  | <u>®</u> | Applying         | ç    |
|  | a window A(50,10), B(80,10), C(80,40) and D(50,40).   |          |                  |      |
| В.                                     | Discuss any one Polygon clipping algorithm.   | [8]      | Understanding    | . CG |
| C                                      | Explain any one Visible Surface Detection methods Z-  | <u>@</u> | Understanding    | CO3  |
|  | Buffer or Painters algorithm.   |          |                  |      |
|  | Explain spline and convex hull?   |          | •                | 3    |
| D.                                     | Describe Bezier curve, its Blending function, and   | [8]      | Understanding    | ξ    |
|  | properties.   |          |                  |      |
| 'n                                     | Given that A0 (1,1), A1(2,3), A2(4,2), and A3(3,1) are the vertices of Bezier control polygon. Determine any  | <u>8</u> | Applying         | 62   |
|  | five points on the Bezier curve.  |          |                  |      |

### Shri Shankaracharya Institute of Professional Management & Technology Department of Computer Science & Engineering

SSIPMT A

Class Test-II Session-July-Dec 2022 Month-January

Sem-CSE 5th (A,B,C) Subject- Computer Graphics Code- C022531(022)

Max Marks: 40

Time Allowed: 2 hrs

Max Marks: 40

Note: - All questions are compulsory and carry equal marks.

| Q.N.             | -         |  | Þ.   |   |   | n  |                               |                                 | Ģ   |  |  | m   |                                  |
|------------------|-----------|--|--|---|---|--|-------------------------------|---------------------------------|---|--|--|---|----------------------------------|
| Questions        | Section I | Use the Cohen Sutherland algorithm to clip two lines | P1(35,10)- P2(65,40) and P3(65,20)-P4(95,10) against | a window A(50,10), B(80,10), C(80,40) and D(50,40). | Discuss any one Polygon clipping algorithm. | Explain any one Visible Surface Detection methods Z- | Buffer or Painters algorithm. | Explain spline and convex hull? | Describe Bezier curve, its Blending function, and | properties.  | Given that A0 $(1,1)$ , A1 $(2,3)$ , A2 $(4,2)$ , and A3 $(3,1)$ are | the vertices of Bezier control polygon. Determine any | five points on the Bezier curve. |
| Marks            |           |  | 8  |   | [8]   | <u>~</u>   | 3                             |                                 | [8]   |  |  | 8   |                                  |
| Bloom's taxonomy |           |  | Applying   |   | Understanding                               | Understanding  |                               |                                 | Understanding                                     | The second secon |  | Applying  |                                  |
| COs              |           | 3  | S  |   | CO3   | CO3  |                               |                                 | ξ   |  | 3  | ξ   | *******                          |