

Roll No. ....

Total Pages : 03

BT-3/D-23

43222

INTRODUCTION TO CYBER SECURITY  
PS-CS-CYS-201A

Time : Three Hours]

[Maximum Marks : 75

**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 the basic nature of cybercrime, and why is it essential for individuals and organizations to understand its scope in the context of cybersecurity ?  
8
- (b) Can you name and briefly explain one common type of cybercrime that individuals should be aware of in the digital age ?  
7
2. (a) What is cyber extortion, and how can individuals and organizations protect themselves from this type of cyber threat ?  
8
- (b) What are some common threats to information systems, and why is it important for organizations to be aware of and mitigate these threats ?  
7

## Unit II

3. (a) What is the difference between internet hacking and cracking, and why are these activities considered illegal and unethical in the online world ?
- (b) What is online stalking, and how does it differ from online obscenity ? How can individuals stay safe and report such behaviors when encountered on the internet ? 15
4. (a) What are the main differences between a DoS and a DDoS attack, and what are some common strategies that organizations use to defend against them ?
- (b) What are viruses and malicious code in the context of computer security, and how can individuals protect their devices from these threats ? 15

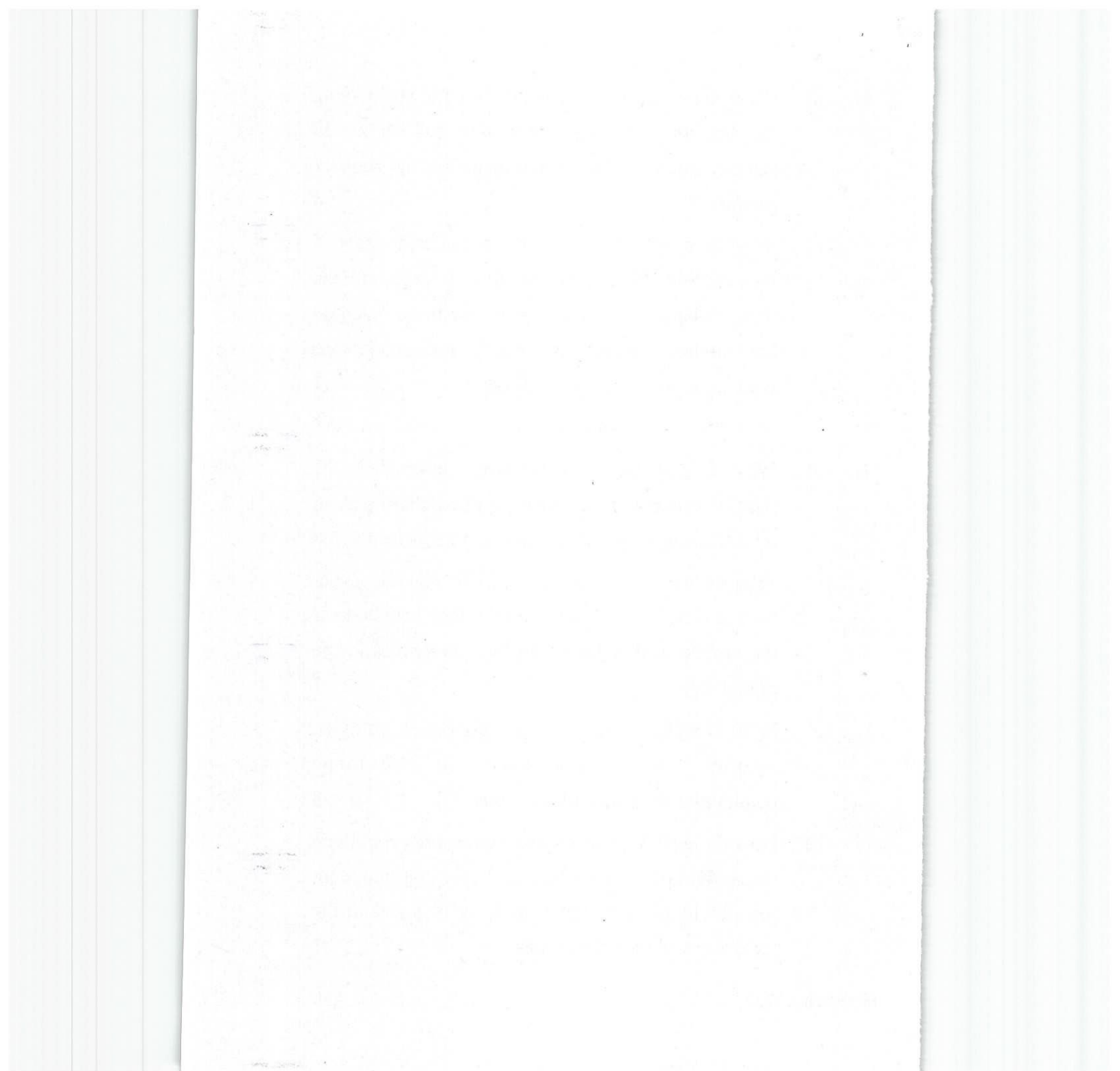
## Unit III

5. (a) Can you explain the difference between passive and active attacks in the context of cybersecurity, and provide an example of each ? 8
- (b) What is intrusion detection, and how does it play a crucial role in enhancing the security of computer systems and networks ? 7

6. (a) What are some key considerations for maintaining the security of an operating system, and why is OS security important for overall computer and network security ? 8
- (b) Why is it important for organizations to have a well-defined strategy for archival storage and the proper disposal of data ? How can these practices help in maintaining data security and compliance with data protection regulations ? 7

#### Unit IV

7. (a) Why is computer forensics science essential in the field of cybersecurity, and what role does it play in investigating cybercrimes and digital incidents ? 8
- (b) Why is there a growing need for specific cyber laws and regulations, and how do they help address the unique challenges posed by cybercrimes in the digital age ? 7
8. (a) What is a digital signature, and how does it provide security and authenticity in electronic communications and transactions ? 8
- (b) How do legal regulations and frameworks contribute to the field of cybersecurity, and why is it important for individuals and organizations to be aware of the legal aspects of cybercrimes ? 7



Roll No. ....

Total Pages : 03

BT-3/D-23

43223

DATA STRUCTURE

PC-CS-CYS-203A

Time : Three Hours]

[Maximum Marks : 75

**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

**Unit I**

1. What is applications of data structure ? Also write Notation of space and time complexity of algorithm and analyse the complexity. 15
2. Write an Algorithm of Binary Search and find its complexity. Explain algorithm with the help of an example. 15

**Unit II**

3. Input :  $ab*c +$   
Output :  $((a * b) + c)$   
Write an algorithm to convert postfix to infix and take an example of above expression. Explain this conversion. 15

(3-43/11)L-43223

P.T.O.

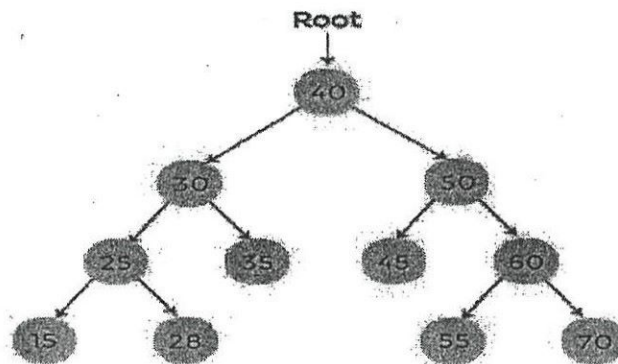
4. What is Circular Queue ? Write an algorithm to insert, delete from circular queue with the help of an example. 15

### Unit III

5. What is need of dynamic data structure over static data structure. Also write an algorithm to insert and delete from single linked list and explain it with the help of an example. 15
6. What is stack and write a program and algorithm to implement stack using linked list. 15

### Unit IV

7. Write an algorithm to implement Post Order traversal of binary tree and also write the output of above given tree. 15



8. Explain the following trees with the help of an example : 15

- (a) Minimum spanning trees
- (b) AVL trees
- (c) Threaded binary tree.



Roll No. ....

Total Pages : 02

**BT-3/D-23**

**43224**

COMPUTATIONAL THINKING WITH  
PYTHON  
PC-CS-CYS-205A

Time : Three Hours]

[Maximum Marks : 75

**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

**Unit I**

1. (a) Discuss the advantages of Python programming. 10  
(b) Explain Token with suitable example. 5
2. (a) Explain different input /output methods of Python. 10  
(b) Discuss the data types of Python. 5

**Unit II**

3. (a) Explain strings and Lists data structures in Python. 10  
(b) Write a short note on sets in Python. 5
4. Explain the control statements of Python with the help of suitable examples. 15

(5-42/11)L-43224

P.T.O.

### **Unit III**

- 5. (a) Explain the types of arguments in Python. **10**
- (b) Write a short note on recursions. **5**
- 6. Describe Decorators and Generators in Python. **15**

### **Unit IV**

- 7. (a) Explain regular expression in Python. **10**
- (b) Write a short note on dictionary operations in Python. **5**
- 8. (a) Discuss the reading and writing in structured files with examples. **10**
- (b) Explain exception handling. **5**

Roll No. ....

Total Pages : 03

**BT-3/D-23**

**43225**

**SOFTWARE ENGINEERING**

**PC-CS-CYS-207A**

Time : Three Hours]

[Maximum Marks : 75

**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 prototype model of software development ?  
Explain. 7
- (b) With the help of figure clearly, explain spiral model in software development. 8
2. (a) Distinguish the development made using the V model and RAD model. 7
- (b) What are the problems with waterfall model ? Also, give an example to illustrate your point of view. 8

**Unit II**

3. (a) What do you mean by software risk ? What are the factors in software risk management ? How to measure risk ? 10

(5-42/12)L-43225

P.T.O.

- (b) Explain different sections of SRS document. 5
- 4. (a) Define software quality assurance and explain different SQA activities. 5
- (b) How to measure software quality aspects using CMM model ? Explain defined level and optimizing level of CMM. 10

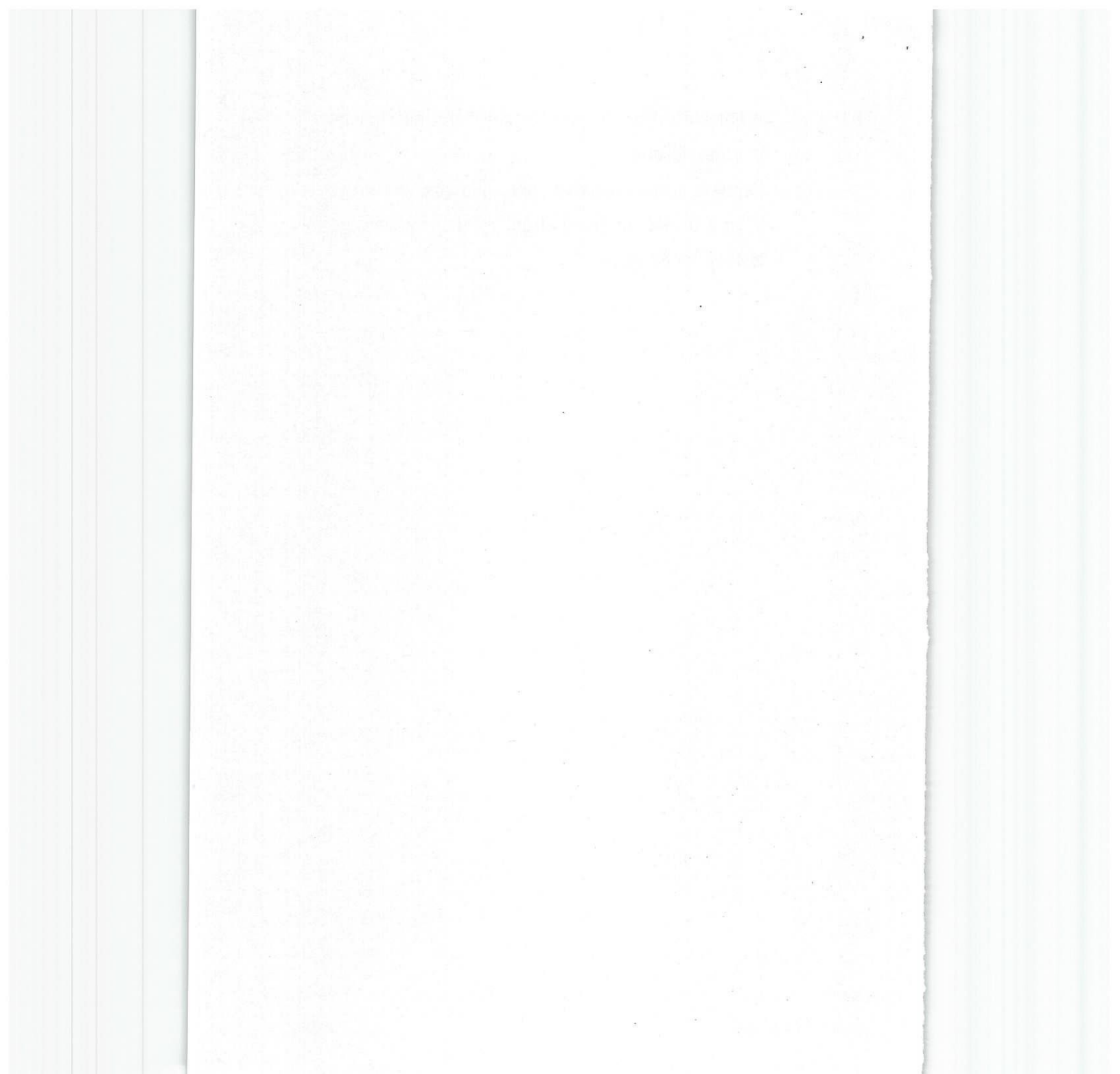
### Unit III

- 5. (a) How are function points derived ? What are the manners in which information domain values are defined ? 7
- (b) How do coupling and cohesion affect the software design ? Explain with the help of examples. 8
- 6. (a) What are the hypothesis mentioned in Halstead software science ? How are they useful in software measurement ? 8
- (b) What are control flow graphs ? How to measure cyclomatic complexity ? 7

### Unit IV

- 7. (a) Explain the process model for software reengineering. How should we do cost/benefit analysis of the reengineering process ? 7
- (b) How to carry out acceptance testing ? Describe major steps. 8

8. (a) What are different types of software maintenance ?  
Discuss issues. 8
- (b) Draw a comprehensive table showing activities to  
be performed in integration, system and structural  
testing techniques. 7



Roll No. ....

Total Pages : 03

**BT-3/D-23**

**43226**

**PRINCIPLES OF PROGRAMMING  
LANGUAGES  
PC-CS-CYS-209A**

Time : Three Hours]

[Maximum Marks : 75

**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

**Unit I**

1. (a) Differentiate between compiler and interpreter.  
Explain the process of compilation in each phase of a compiler.
- (b) What are elementary data types ? Discuss the specifications and implementation of elementary data types. 8+7=15
2. (a) What do you mean by Enumerations ? Differentiate between type checking and type conversion.
- (b) List the general problems of describing syntax.  
Explain most widely approach for describing syntax. 8+7=15

(5-43/1) L-43226

P.T.O.

## Unit II

3. (a) Differentiate between vector and array. Discuss vectors declaration and how are elements accessed ? Explain the operations on vectors.  
(b) What is type checking issues of Union ? Discuss storage representations and implementation of Union.  
**8+7=15**
4. (a) What is an overloaded subprogram ? Explain, how are subprograms names passed as parameters.  
(b) Define Subprogram. What are the distinct categories of Subprograms ?  
**8+7=15**

## Unit III

5. (a) What is sequence control and data control ? Explain different categories of sequence control.  
(b) Write a note on synchronization through semaphores.  
**8+7=15**
6. Discuss the following :  
(a) Local data and local referencing environment  
(b) Parameter transmission schemes. **8+7=15**

## Unit IV

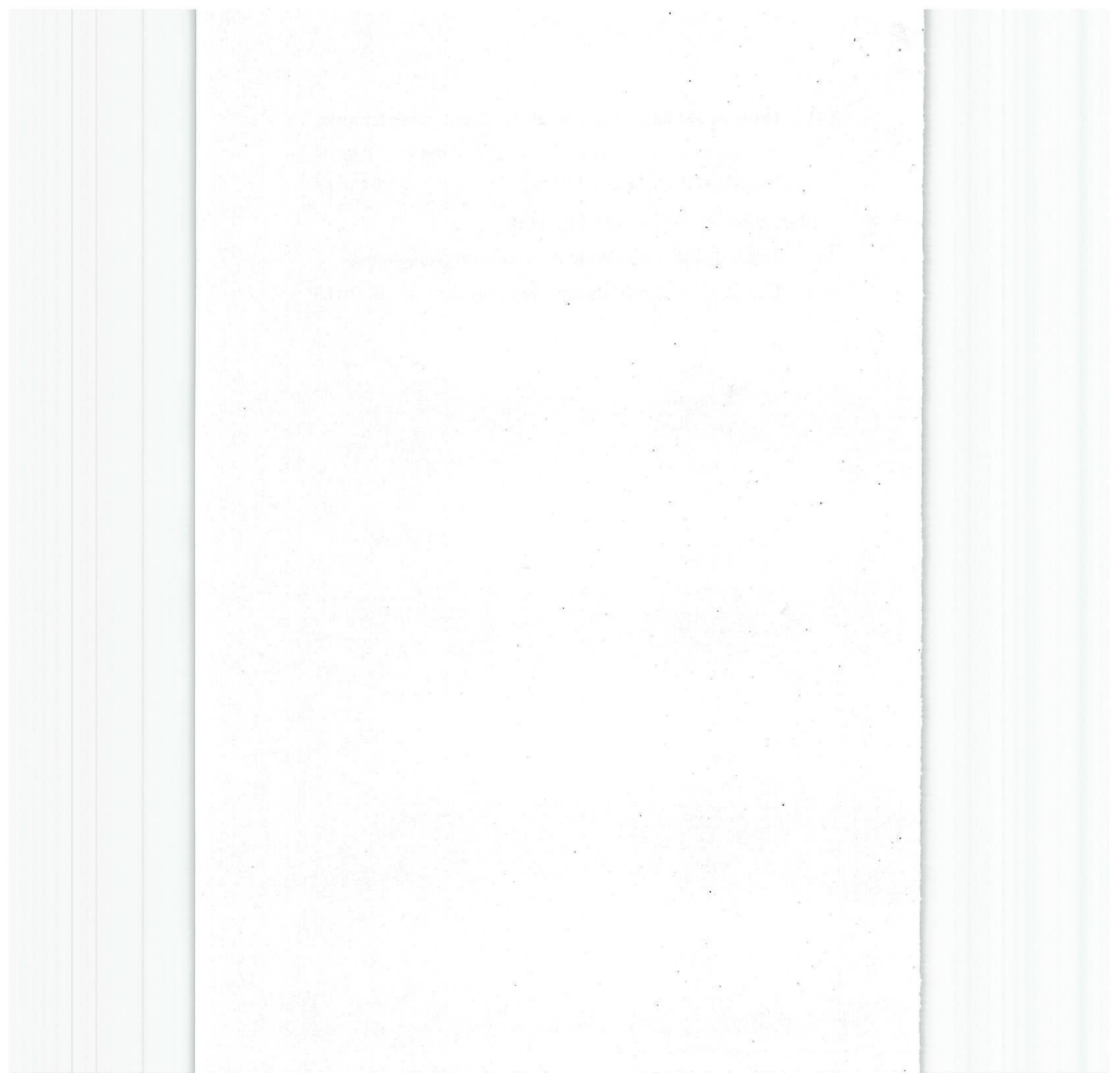
7. (a) Differentiate between programmer and system controlled storage management.

(b) How is storage managed in different programming languages and for different kinds of data ? Discuss heap-based storage allocation.  $8+7=15$

8. Differentiate between the following :

(a) Logical and functional programming languages

(b) C and C++ programming languages.  $8+7=15$



Roll No. ....

Total Pages : 03

**BT-3/D-23**

**43227**

**COMPUTER ORGANIZATION AND  
ARCHITECTURE  
ES-CS-CYS-211A**

Time : Three Hours]

[Maximum Marks : 75

**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

**Unit I**

1. (a) Write about computer architecture. Briefly explain about computer generations.
- (b) Explain the process of multiplying binary integers with Booth's algorithm. Write its advantages, disadvantages. 8+7=15
2. (a) Distinguish between fixed point representation and floating point representation.
- (b) Represent the number  $(+ 46.5)_{10}$  as a floating-point binary number with 24 bits. The normalized fraction mantissa has 16 bits and the exponent has 8 bits.

8+7=15

(5-43/3) L-43227

**P.T.O.**

## Unit II

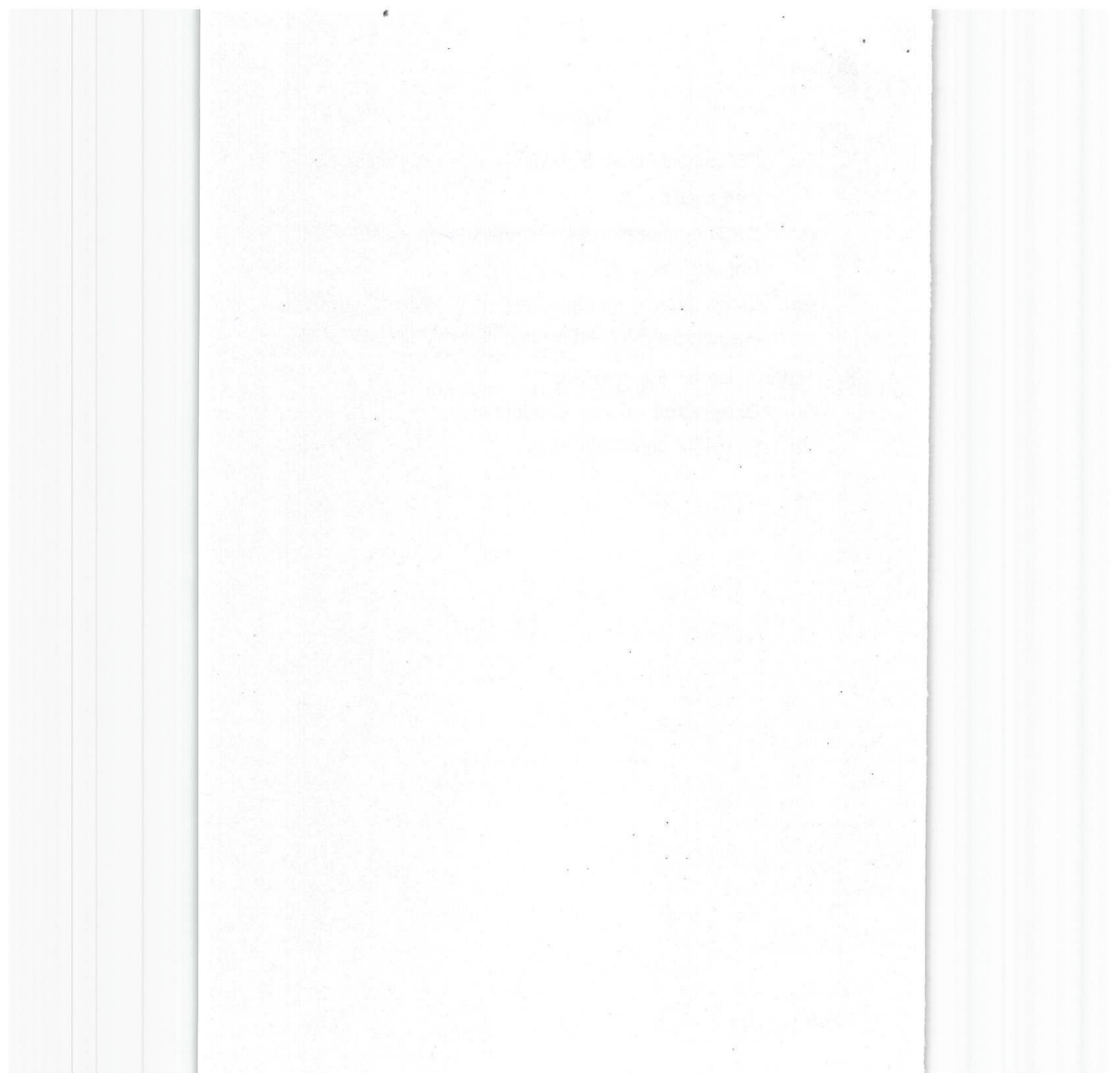
3. (a) What are the different phases a basic computer instruction cycle consists ? Explain instruction cycle with flowchart.
- (b) Explain memory reference instructions. **8+7=15**
4. (a) Explain about program interrupts and interrupts cycle.
- (b) What is address sequencing ? Explain the conditional branching and mapping of instruction in it. **8+7=15**

## Unit III

5. (a) Explain the following with respect to stack organization :
- (i) Register stack
- (ii) Stack Operations
- (iii) Reverse Polish Notation.
- (b) Write note on addressing modes based on transfer of control. **8+7=15**
6. (a) What are the pipeline conflicts that cause the instruction pipeline to deviate from its normal operation ?
- (b) Write a note on vector processing and array processors. **8+7=15**

#### Unit IV

7. (a) Differentiate between asynchronous and synchronous data transfer.
- (b) Differentiate between Memory mapped I/O and Isolated I/O.
- (c) Show internal configuration of a DMA controller diagrammatically and explain its working.  $5+5+5=15$
8. Write notes on the following :
- (a) Daisy chain priority interrupt
- (b) CPU-IOP communication.  $8+7=15$



Roll No. ....

Total Pages : 03

BT-5/D-23

45267

DESIGN AND ANALYSIS OF ALGORITHMS  
PC-CS-CYS-301A

Time : Three Hours]

[Maximum Marks : 75

**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

**Unit I**

1. (a) Explain the difference between an algorithm's time complexity and space complexity, and why are these metrics important in algorithm analysis.  
(b) What is the master theorem, and how does it simplify the analysis of divide-and-conquer algorithms through recurrence relations ?
2. (a) Explain the differences between Big O, Big Omega, and Big Theta notation, and when is each used in algorithm analysis.  
(b) What are the differences between forward substitution and backward substitution when solving recurrence relations ?

## Unit II

3. (a) How does dynamic programming help in solving problems with overlapping sub-problems, and why is this a key feature ? Discuss.
- (b) What is a Fibonacci heap, and how does it address some of the limitations of other heap data structures like binomial heaps ? Explain.
4. (a) How is the structure of a binomial heap represented ? What are the time complexities of the primary operations in a binomial heap ?
- (b) What is the relationship between greedy algorithms and interval scheduling and Huffman coding problems ?

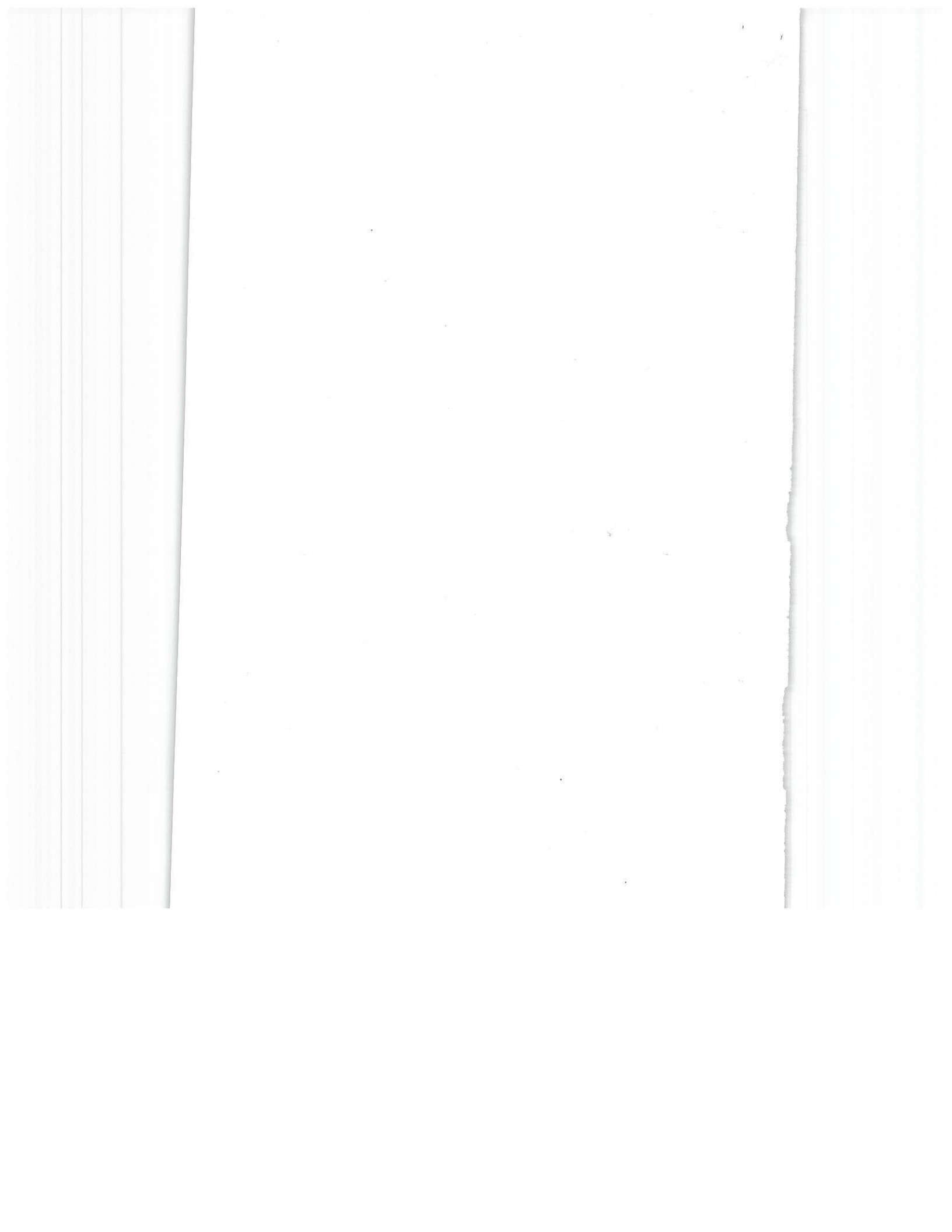
## Unit III

5. (a) Discuss the trade-offs between breadth-first search (BFS) and depth-first search (DFS) and the scenarios in which each is preferred.
- (b) What is the fundamental principle behind the Bellman-Ford algorithm for finding the shortest path in a graph ? How does the Bellman-Ford algorithm handle graphs with negative-weight cycles, and what implications does this have on the algorithm's behavior ?

6. (a) Explain the concept of algorithmic complexity classes, such as P, NP, and NP-hard, and their significance in theoretical computer science.
- (b) What is the fundamental principle behind Prim's algorithm for finding a minimum spanning tree, and how does it differ from Kruskal's algorithm ?

#### Unit IV

7. (a) What are the key characteristics of a bitonic sequence, and why is it a crucial element in the network's construction ?
  - (b) What is the Ford-Fulkerson method, and how does it relate to solving the maximum flow problem in networks ? Explain.
8. (a) What is the significance of 'bipartite graph,' 'matching,' and 'augmenting path' in the context of solving maximum bipartite matching problems ? Discuss.
  - (b) How does the Ford-Fulkerson algorithm handle scenarios with multiple sources and sinks in a network, and what are the implications for optimization problems ?



Roll No. ....

Total Pages : 03

**BT-5/D-23**

**45268**

**SECURITY THREATS AND TRENDS**  
**PC-CS-CYS-303A**

Time : Three Hours]

[Maximum Marks : 75

**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

**Unit I**

1. (a) Identify the main role of target assets and vulnerabilities. What is the most common source of security threats ? 8
- (b) Differentiate between Trojans and worms ? Which type of security goals are breached by these attacks ? 7
2. (a) Differentiate between sabotage and session hijacking by taking some practical examples. 8
- (b) Which technique is mainly employed for session hijacking ? What actions can be taken to prevent session hijacking ? 7

(2-18/7) L-45268

P.T.O.

## Unit II

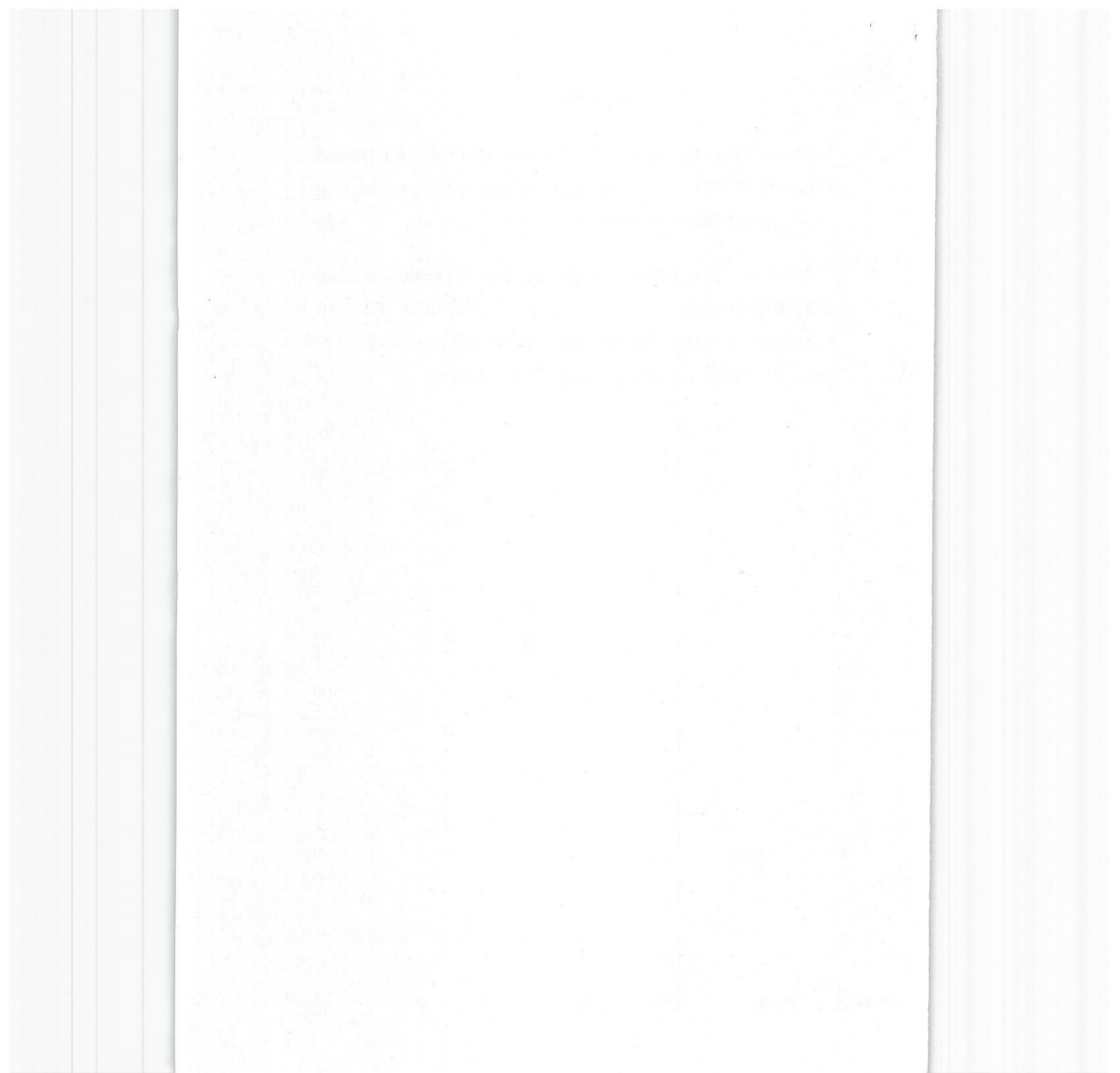
3. (a) What are the main approaches to threat analysis ?  
What types of questions should be taken care during  
threat analysis ? 8
- (b) With the help of generalized architectural diagram,  
discuss the model for information security planning. 7
4. (a) Identify the critical sources of vulnerabilities ? What  
are the types of vulnerability assessment ? 8
- (b) Explain the concept of security threat correlation  
for security management. 7

## Unit III

5. (a) What are the main purposes of authentication ?  
What are some common authentication methods ? 8
- (b) How does a firewall protect data ? What is the  
difference between hardware and software firewalls ? 7
6. (a) What are the various security policies and procedures  
to establish the secure data connection ? How to  
specify security requirements ? 8
- (b) Identify the difference between IDS and honey pots ?  
What are the phases of an information security  
monitoring ? 7

## Unit IV

7. Define trust and security. Differentiate between trusted computing and multilevel computing with the help of real-time practical examples. 15
8. Critical analyze the basic differences between physical and infrastructure with the help of real-time practical examples. Identify the various internet policies which are generally used for access control mechanism. 15



Roll No. ....

Total Pages : 03

**BT-5/D-23**

**45269**

**INFORMATION SECURITY AND DATA  
HIDING**

**ES-CS-CYS-305 A**

Time : Three Hours]

[Maximum Marks : 75

**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

**Unit I**

1. (a) What are the various objectives of computer security ? Explain along with various challenges of computer security. 7.5
- (b) Discuss the symmetric cipher model in detail with the help of suitable example. 7.5
2. (a) Explain the concept of DES using suitable example. 7.5
- (b) Discuss the various methods to generate pseudo random numbers in brief. 7.5

(7-25/1) L-45269

P.T.O.

## Unit II

3. (a) Explain public-key crypto system in detail using suitable examples. How is it different from conventional encryption ? 7.5
- (b) Discuss the Diffie-Hellman key exchange algorithm in detail. 7.5
4. (a) Comment on the requirements and security for MACs. 7.5
- (b) Comment on combining security associations. 7.5

## Unit III

5. What are the various techniques commonly used techniques used for digital audio/video/image and text hiding ? Explain in detail using suitable examples for each. 15
6. (a) Discuss the various classification of steganography algorithms and compare these on the basis of various parameters. 7.5
- (b) Discuss the geometric models for watermarking in brief. 7.5

## Unit IV

7. (a) Discuss the applications of data hiding technology in the field of medicines. e-Commerce, and remote sensing. 7.5
- (b) What are the various digital rights management issues ? Explain in detail. 7.5
8. Write short notes on the following : 15
- (i) Key management
  - (ii) Multimedia security
  - (iii) Digital signatures.

THE UNIVERSITY OF CHICAGO

PHILOSOPHY DEPARTMENT

1155 EAST 58TH STREET

CHICAGO, ILLINOIS 60637

1998

OFFICE OF THE DEAN

1155 EAST 58TH STREET

CHICAGO, ILLINOIS 60637

TEL: 773-936-3300

FAX: 773-936-3300

WWW: WWW.CHICAGOEDU

WWW: WWW.PHIL.DU

WWW: WWW.PHIL.DU

WWW: WWW.PHIL.DU

WWW: WWW.PHIL.DU

WWW: WWW.PHIL.DU

WWW: WWW.PHIL.DU

WWW: WWW.PHIL.DU

WWW: WWW.PHIL.DU

WWW: WWW.PHIL.DU

WWW: WWW.PHIL.DU

WWW: WWW.PHIL.DU

WWW: WWW.PHIL.DU

WWW: WWW.PHIL.DU

WWW: WWW.PHIL.DU

WWW: WWW.PHIL.DU

WWW: WWW.PHIL.DU

WWW: WWW.PHIL.DU

WWW: WWW.PHIL.DU

WWW: WWW.PHIL.DU

Roll No. ....

Total Pages : 04

BT-5/D-23

45270

MICROPROCESSOR AND INTERFACING  
ES-CS-CYS-307A

Time : Three Hours]

[Maximum Marks : 75

**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Section. All questions carry equal marks.

**Section I**

1. (a) With the help of a block diagram explain in detail the architecture of 8086 microprocessor. Explain the concept of memory segmentation. What are its advantages ? 10
- (b) Explain the concept of Pipelining used in 8086  $\mu$ p and give its significance. 5
2. (a) Draw the Pin configuration of 8086  $\mu$ p and explain the functioning of pins in Minimum and Maximum mode. 8
- (b) Explain the operation of 8284 clock generator with the help of block diagram. 7

(3-42/6) L-45270

P.T.O.

## Section II

3. (a) For the given clock, draw the timing diagram for Read and write cycle in minimum mode operation and explain. **10**
- (b) Describe the maximum mode configuration of 8086 with a neat diagram. Mention the functions of various signals. **5**
4. (a) Interface the 8086 microprocessor with two 16 K × 16 EPROM chips and two 16 K × 16 RAM chips. Draw the necessary block diagram for the support of your calculations. **10**
- (b) Give the cell structures of SRAM and EEPROM memories. **5**

## Section III

5. (a) Calculate the memory address the following instructions will access If DS = 4000H, [BX] = 0100 H, and [SI] = 6000 H, [BP] = 1000 H and [DI] = 2100 H. Also, give the addressing modes of the following instructions : **7**
- (i) MOV CX, [3000H]
- (ii) MOV AX, BX

- (iii) MOV CX, [BX]
  - (iv) MOV AX, [BP + 6000H]
  - (v) MOV DX, [BX + SI]
  - (vi) MOV DX, [BP + DI + 5000H]
  - (vii) MOV AX, 1234H.
- (b) Explain the following instructions : 8
- (i) LDS
  - (ii) TEST
  - (iii) AAA
  - (iv) DAS
  - (v) ROR.
6. (a) Generate the HEX codes for the following instructions : 8
- (i) Mov [SP + SI], 7000h
  - (ii) Mov [AX], DX.
- (b) Write a program to convert Hex code into ASCII code and then from ASCII code to Hex code. 7

#### Section IV

7. (a) Interface the 8086 microprocessor to a  $4 \times 4$  keyboard, draw the necessary block diagram in support and also draw a flow chart for the same. 8

- (b) Write down the steps involved when an interrupt INT 32h is encountered in the main program and calculate address of ISR for this interrupt. 7
8. (a) Interface a typical 12-bit DAC with 8255 and write a program to generate a triangular waveform of period 10 ms. The CPU runs at 4 MHz clock frequency. 8
- (b) With the help of a block diagram explain the functioning of Intel 8259 chip. 7

Roll No. ....

Total Pages : 02

BT-5/D-23

45271

BUSINESS INTELLIGENCE AND  
ENTREPRENEURSHIP

HM-902A

Time : Three Hours]

[Maximum Marks : 75

**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

**Unit I**

1. What is the relationship between entrepreneurship and economic development ? Which are different types of entrepreneurs ?
2. To become a successful entrepreneur, which traits/qualities requisites are required in present volatile business environment ?

**Unit II**

3. Which marketing mix can be effective for a new product being launched in the market ?
4. Why is marketing research conducted ? Which type of analysis are done while conducting marketing research ?

(3-42/8) L-45271

P.T.O.

### **Unit III**

5. Which are main objectives of small-scale industries in India ? How can their registration be done ?
6. "The MSME sector avails many incentives and exemptions but face many obstacles also." Comment on the statement.

### **Unit IV**

7. Which role SIDBI and DICs are playing for supporting the entrepreneurs/small business in India ?
8. While starting a business by an engineering graduate, which intellectual properties are required to be studied and considered ?

Roll No. ....

Total Pages : 02

**BT-5/D-23**

**45272**

**COMPUTER NETWORKS**

**PC-CS-CYS-311A**

Time : Three Hours]

[Maximum Marks : 75

**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

**Unit I**

1. (a) Explain TCP/IP reference model with neat diagram. 10
- (b) Explain the different network topologies. 5
2. (a) In detail explain how FDM combines analog signals. 7
- (b) Explain how narrow band ISDN replace the analog telephone system with a digital one. Explain its expansion to broadband ISDN. 8

**Unit II**

3. Briefly explain the different techniques used for flow control at data link layer. 15

(2-23/12)L-45272

P.T.O.

4. (a) Explain briefly about the Persistent and Non-persistent CSMA protocols. 7  
(b) Write short notes on the following : 8  
(i) Token Ring  
(ii) FDDI.

### Unit III

5. (a) Discuss about the protocols of Network layer with header. 10  
(b) State the major difference between distance vector routing and link state routing. 5
6. Explain different multicast and unicast routing protocols. 15

### Unit IV

7. What are the features of TCP and UDP protocols ? Illustrate the scenario of three way handshaking with an example. 15
8. (a) How congestion may be occur in networks ? Explain leaky bucket routing algorithm. 10  
(b) Explain the encryption and decryption method. 5

CYS TMY Lab

Roll No. ....

Total Pages : 2

BT-7/D-23

47407

## CYBER ATTACKS-OWASP FRAMEWORK

Paper-PC-CS-CYS401A

Time Allowed : 3 Hours]

[Maximum Marks : 75

**Note** : Attempt **five** questions in all, selecting at least **one** question from each Unit. All questions carry equal marks.

### UNIT-I

1. (a) What do you mean by Open Web Application Security Project (OWASP) and write the principle of OWASP ? 8
- (b) Explain cryptographic failure if OWASP. 7
2. Explain insecure design and their issues in OWASP. And also explain the risks of application software security. 15

### UNIT-II

3. What are steps to identify the Security threats and authentication failure in OWASP ? And also write the strategy to mitigate broken authentication failure. 15
4. What is injection attack and broken access control in Web application? Write the steps to prevent injection attack. 15

47407/K/496/150

P. T. O.

### UNIT-III

5. What is Cross-site scripting attacks and its consequences. And also explain to prevent and mitigate this attacks? Explain it with the help of an example. 15
6. What are Security logging and Monitoring failures and how the data is handled from the untrusted source and known vulnerable source? 15

### UNIT-IV

7. What is Security from misconfiguration and explain the pattern of attack and prevent from vulnerable and outdated components? 15
8. Explain the following terms in OWASP :
  - (a) Session hijacking
  - (b) Local file inclusion
  - (c) Remote file inclusion. 15

Roll No. .... Total Pages : 2

BT-7/D-23

47410

## ETHICAL HACKING

Paper-OE-CS-CYS-403

Time Allowed : 3 Hours] [Maximum Marks : 75

**Note** : Attempt **five** questions in all, selecting at least **one** question from each Unit. All questions carry equal marks.

### UNIT-I

1. What do you mean by Ethical hacking ? Explain Windows hacking and Linux hacking in detail. 3,6,6
2. What is Google hacking ? And also explain Trozan, Virus and worms in detail. 3,4,4,4

### UNIT-II

3. What do you mean by Security Operation Center ? Explain its framework in detail with the help of example. 15
4. What is Qradar and also explain Incident detection and investigation with the help of Qradar in detail ? 15

### UNIT-III

5. (a) What are firewalls and HoneyPot and how they protect system from threats ?

47410/K/600/150

P. T. O.

- (b) What is SQL injection and explain it with the help of an example ? 15
6. What is Snort and write the methods to implement Snort in real time traffic ? 15

#### UNIT-IV

7. Explain the following terms and tools for hacking : 15
- (a) E-mail hacking
  - (b) Blue-tooth hacking
  - (c) Mobile Phone hacking.
8. Explain Legal, professional and ethical issues to be expert in Hacking of any system. 15

#### UNIT-II

#### UNIT-III

Roll No. .... Total Pages : 2

**BT-7/D-23 47414**

## **INTRODUCTION TO CYBER LAWS**

Paper-PE-CS-CYS-415A

Time Allowed : 3 Hours] [Maximum Marks : 75

**Note** : Attempt **five** questions in all, selecting at least **one** question from each Unit. All questions carry equal marks.

### **UNIT-I**

1. (a) Discuss different categories of Cyber crime. 7  
(b) Define the Offence. Discuss different types of offence and related important sections. 8
2. What is IT act 2000 ? Discuss its important sections. How many schedules and chapter are included in IT Act 2000 ? How these schedule and chapters cover IT Act 2000 ? 15

### **UNIT-II**

3. (a) Discuss various Jurisdiction issues under IT Act. 7  
(b) Explain the working of Digital signature. 8
4. (a) What is E-commerce? Discuss various laws related to E-commerce. 7

47414/K/645/150

**P. T. O.**

(b) Define with examples : ..... 4×2=8

(i) Cyber stalking.

(ii) Computer vandalism.

(iii) Siphoning of funds.

(iv) Cyber Extortion.

### UNIT-III

5. (a) Differentiate copyright and patent with example. 7

(b) Discuss various Domain name and Copyright dispute. 8

6. (a) What is Classification of sensitive information? How do you identify sensitive information? 8

(b) Write short notes on the following :

Cyber Law : An International Perspective. 7

### UNIT-IV

7. (a) Discuss various Cyber ethics for students. 7

(b) What are the types of Intellectual property? List various activities which are covered by the intellectual property rights. 8

8. (a) Discuss the right to privacy under surveillance in India. What are the types of Privacy? 8

(b) Write short note on Net neutrality. 7

Roll No. ....

Total Pages : 2

BT-7/D-23

47419

## CLOUD SECURITY

Paper-PE-CS-CYS-425A

Time Allowed : 3 Hours]

[Maximum Marks : 75

**Note** : Attempt **five** questions in all, selecting at least **one** question from each Unit. All questions carry equal marks.

### UNIT-I

1. What do you mean by Amazon Web Service(AWS)? Explain the AWS security by design and key management. 3,6,6
2. Explain the AWS encryption service in detail and which AWS services use encryption? 15

### UNIT-II

3. Explain the common attacks on cloud infrastructure :
  - (a) Unauthorized Access.
  - (b) SQL injection.
  - (c) Misconfiguration. 3×5=15
4. What are different counter measure to protect cloud infrastructure and also explain incident response in detail? 15

47419/K/780/250

P. T. O.

### UNIT-III

5. Explain the life cycle of cloud based information in detail and what are common attack and threat for data in cloud infrastructure? 15
6. What are different data protection strategy and data protection law in India? 15

### UNIT-IV

7. Explain the proactive activity monitoring and monitoring for unauthorized access in detail. 15
8. What is Malicious traffic in cloud and also explain intrusion detection methods for cloud trafficking? 15

Roll No. ....

Total Pages : 2-

BT-7/D-23

47394

**UNIVERSAL HUMAN VALUES II :  
UNDERSTANDING HARMONY**

Paper-HSS-403A

Time Allowed : 3 Hours]

[Maximum Marks : 75

**Note** : Attempt **five** questions in all, selecting at least **one** question from each Unit. All questions carry equal marks.

**UNIT-I**

1. Define Value Education. Discuss various guidelines for Value Education. Discuss how it helps in living a happy and prosperous life. 15
2. "I will learn and improve only if I am unhappy. If I become happy, my learning will stop"- Explore the validity of this. Viewpoint. 15

**UNIT-II**

3. What are the five dimensions of Human Endeavour in society conducive to 'mānaviya vyavasthā'? Explain. 15
4. How do we differentiate in relationships on the basis of body, physical facilities or beliefs? What problems do we face because of such differentiation? 15

47394/K/582/350

P. T. O.

### UNIT-III

5. Explain the activities in the four orders of nature. How are the activities in the human order qualitatively different from those of the other three orders? Also explain the term 'conformance'. What is conformance in the four orders ? 15
6. Write short notes on: Love, Glory, Gratitude and Affection. 15

### UNIT-IV

7. Discuss the concept of existence as coexistence. Discuss holistic perception of harmony in existence. 15
8. Critically examine the issues in professional ethics in the current scenario. List any five unethical practices in profession today and the methods being tried to curb them. Comment on the long-term effectiveness of these methods. 15