KINGS

COLLEGE OF ENGINEERING

DEPARTMENT OF HUMANITIES AND SCIENCE

SUBJECT CODE : CS 1101 **YEAR : I**

SUBJECT NAME : FUNDAMENTALS OF COMPUTING&PROGRAMMING **SEM : I**

QUESTION BANK

UNIT – I DIGITAL CONCEPTS

PART-A (2 MARKS)

1. Define Computer?
2. What are the basic operations of Computer?
3. List out any 5 characteristics of Computer?
4. What is an Information Technology?
5. Expand ENIAC, EDVAC, and EDSAC?
6. Who is the Father of Computer?
7. What are the Major Components of I and II generation Computers?
8. Define CPU and ALU?
9. Expand SMPS, RAM, ROM, BIOS.
10. Define Bit, Byte, and Nibble?
11. Define Time Diagram?
12. Define Logic Gate?
13. What are the types of Logic Gates?
14. Define an Integrated Circuit.
15. What are the types of Expansion Slots?
16. What are the types of Digital Signals?
17. Define Frequency?
18. What are the Applications of computers?

19. Define VLSI?
20. Who invented the Integrated Circuits?

PART-B

1. (a)Explain about the Block Diagram of the Computer in Detail. **(8)**
   (b) What are the characteristics of Computer? **(8)**
2. Explain in detail About the Components of Computer System. **(16)**
3. List out the Features of al generations of computer with their advantages and disadvantages. **(16)**
4. Write a note on classification of Computers.**(16)**
5. Explain the various applications of Computer in detail.**(16)**
6. (a)Explain about the Analog and Digital quantity in detail? **(8)**
   (b)Explain the types of Digital Waveform in Detail. **(8)**
7. (a)Explain the digital Waveform concept in detail. **(8)**
   (b)List out the waveform characteristics. **(8)**
8. (a)What are the Basic Logic operations? **(8)**
   (b)Explain how the digital waveform carries Binary information. **(8)**
9. (a)Explain about the Timing diagram. **(8)**
   (b)Explain about the Integrated Circuits in Detail. **(8)**

UNIT II NUMBER SYSTEMS

PART-A (2MARKS)

1. Define Non-positional Number Systems.
2. What are the types of positional Number systems?
3. Define MSB and LSB.
4. Define Binary Number System.
5. Define Decimal Number System.
6. Define Octal Number System.
7. Define Hexadecimal Number System.
8. What are the types of Binary Arithmetic?
9. What are the rules for Binary Addition?

10. What are the rules for Binary Subtraction?
11. What are the rules for Binary Multiplication?
12. What are the rules for Binary Division?
13. Define 1's complement and 2's Complement.
14. What is the procedure to find out subtraction using Complementary Method?
15. What are the types involved in Error Detection and Correction Codes?
16. What re the types of Number system Conversions?
17. Define BCS Code
18. List out the procedure for BCD addition.
19. Define 8421 Code?
20. What are the characteristics of 8421 Code?
21. Define Gray Code.
22. List out the procedure for converting Binary to Gray Code Conversion.
23. List out the procedure for converting Gray Code to Binary Conversion.
24. Define Excess -3 Codes.
25. What re the characteristics of Excess – 3 Code.
26. Convert the Following binary Number to Decimal
    1) $111001_{(2)}$ 2) $00101_{(2)}$ 3) $101110_{(2)}$ 4) $110010_{(2)}$
27. Convert the following Hexadecimal to Decimal
    1) $93A_{(16)}$ 2) $6BA_{(16)}$ 3) $3B9_{(16)}$ 4) $28D_{(16)}$
28. Convert the following Octal and Decimal.
    1) $773_{(8)}$ 2) $7373_{(8)}$ 3) $1267_{(8)}$ 5) $6347_{(8)}$
29. Convert the following Decimal to Hexadecimal.
    1) $7793_{(10)}$ 2) $2389_{(10)}$ 3) $2079_{(10)}$ 4) $676_{(10)}$

PART-B

1. (a) Add the BCD Numbers 01100111 and 01010011 **(4)**
   (b) Convert Gray Code 100111 to Binary **(4)**
   (c) Convert the Decimal Number 4019 to Hexadecimal Number **(8)**

2. (a) Convert the Decimal Number 250 to Octal Number **(4)**
   (b) Divide the Signed Number 01100100 by 00011001 **(8)**
   (c) Determine the Decimal Value of signed Binary number 01010110

Expressed in 2's Complement Form **(4)**

3. (a) Subtract the Hexadecimal Number 173 from BCD **(4)**
   (b) Subtract the Decimal Number 75 from 25 using 9's Complement Method **(4)**
   (c) Convert the Binary Number 1011100.10101 to Decimal Number **(8)**

4. (a) Convert $(850)_{10}$ to Binary Number **(4)**
   (b) Multiply the signed numbers 01010011 and 11000101 **(8)**
   (c) Determine the Decimal Value of signed Binary number 10101010 expressed in 2's Complement Form **(4)**

5. (a) Subtract the binary number 100 from 001 using 1's Complement Method **(4)**
   (b) Convert the Decimal Fraction 250.3125 to Binary Number **(8)**
   (c) Subtract the hexadecimal number 0B from C3 **(4)**

6. (a) Convert $(5C2)_{16}$ to Decimal Number **(4)**
   (b) Multiply the Signed Number 01001101 by 00000100 **(8)**
   (c) Add the Hexadecimal Numbers DF and AC **(4)**

7. (a) Perform the following Subtraction 55 - 35 using 10's Complement Method **(4)**
   (b) Convert the Decimal Fraction 186.9028 to Binary Number **(8)**
   (c) Perform the following Subtractions of Signed Numbers00001000 – 00000011**(4)**

8. (a) Determine the Decimal Value of signed Binary number 00010111
   Expressed in 1's Complement Form **(4)**
   (b) Convert the Decimal Number 1723.256 to Hexadecimal Number **(8)**
   (c) Subtract 110 from 010 using 2's Complement Method **(4)**

9. (a) Perform the following Subtraction 110 - 320 using 10's Complement Method **(4)**
   (b) Determine the Decimal Value of signed Binary number 11101000 expressed in 1's Complement Form **(4)**

(c) Convert Hexadecimal Number AC5.4D to Octal Number **(8)**

10. (a) Perform the following Subtractions of Signed Numbers
    11100111 – 00010011 **(4)**
    (b) Convert the Binary Number 11110.11011 to Hexadecimal Number **(8)**
    (c) Perform the following Subtraction 125 -110 using 9's Complement Method **(4)**

11. (a) Subtract 101010 from 111000 using 2's Complement Method **(4)**
    (b) Convert the Binary Number 1011110 to Octal Number **(8)**
    (c) Subtract the Signed Binary Number 01000111 from 01011000 **(4)**

12. (a) Add the BCD Numbers 00010110 and 00010101 **(4)**
    (b) Convert the Decimal Number 3.248×10^4 to a Single Precision Floating point Binary Number **(4)**
    (c) Convert the Hexadecimal Number 5C8 to Binary Number **(8)**

13. (a) Subtract the Signed Binary Number 11100010 from 10001000 **(4)**
    (b) Express +19 and -19 in Sign-Magnitude Form and 2's complement Form **(4)**
    (c) Convert the Octal Number 540 to Binary Number **(8)**

14. (a) Convert the Binary Number 101101 to Gray Code **(4)**
    (b) Convert the Hexadecimal Number 6BB.4189 to Decimal Number **(8)**
    (c) Express +39 and -39 in 1's Complement Form and 2's Complement Form **(4)**

15. (a) Add the Hexadecimal Numbers 4C and 3A **(4)**
    (b) Express +19 and -19 in sign-Magnitude from, 1's Complement Form and 2's Complement form **(8)**
    (c) Convert Decimal Number 9673 to BCD Number **(4)**

16. (a) Define Digital Code and explain about the different types of Digital Code **(12)**
    (b) Express +39 and -39 in Sign-Magnitude Form and 2's complement Form **(4)**

UNIT III HARDWARE AND SOFTWARE

PART-A(2 MARKS)

1. Define Data, Information and Measured Information.
2. Define CPU.
3. What is known as Clock Signal?
4. Define Control Unit and ALU.
5. Define Primary Storage and its Components.
6. Define Dynamic Memory.
7. Define Secondary and Off-line Storage.
8. What is called Tertiary and Database Storage?
9. Define Network Storage and its Components.
10. What are the Characteristics of Storage?
11. What is known as Semiconductor Storage?
12. Define Magnetic Storage and its types.
13. Define Secondary Storage and its types.
14. What are the types of Magnetic Disks?
15. Define Optical Storage Devices.
16. What are the types of Optical Storage Devices?
17. What are the types of Input Devices?
18. Define about the Monitors and its types.
19. Define Sound system and its types.
20. Define Printing Devices and its types.
21. Define Hardware and Software.
22. What are the types of Software?
23. What is the Application of Software?
24. Define operating System and its Functions.
25. Define Compiler, Interpreter and Assembler.
26. What are the functions of System utilities?
27. What are the types of Operating System?
28. What are the Categories of Operating System?
29. Define Application Program.

30. What are the types involved in Graphics File Formats?

PART-B

1. Explain about various Processing Devices. **(16)**
2. Explain in detail about Storage Devices. **(16)**
3. (a)Explain briefly about Characteristics of Storage. **(8)**
   (b)Explain about Secondary Storage Devices. **(8)**
4. Explain briefly about Magnetic Storage Devices. **(16)**
5. Explain briefly about Optical storage Devices. **(16)**
6. Explain about Input devices in detail? **(16)**
7. List out the Types of Computer Monitors and Explain in detail. **(16)**
8. Explain briefly about Audio visual Input/Output Devices. **(16)**
9. List out the types of Printing Devices and Explain in Detail. **(16)**
10. Define Hardware and Software and its types. **(16)**
11. Explain in detail about Graphics and Multimedia. **(16)**

UNIT IV NETWORKING FUNDAMENTALS

PART-A (2 MARKS)

1. What are the Major Application of N/w?
2. Give Explanation About Modem.
3. What is called Protocol?
4. List out any 5 advantages of Communication Networks.
5. List out any 5 disadvantages of Communication Networks.
6. Define Network Provider.
7. What are the types of Communication Channels?
8. List out the types of Modem.
9. Define Broadband.
10. List any 5 advantages and disadvantages of Broadband.
11. Define DSL and its classification.
12. Define ADSL.
13. List out any 5 advantages and disadvantages of DSL Technologies.
14. Describe the Operation of Cable Modem Connections.
15. What is called Networking?

16. Define LAN, MAN, WAN.
17. Define PSTN.
18. List out the Networking Applications.
19. What are the Common types of Networks?
20. What are the types of Network Architectures?
21. What is Network Topology and its Types?
22. Define Wireless LAN Topologies.
23. What are the types of Protocols?
24. Define Fiber-Optic Cable.
25. Define network Segment.
26. Define Network interface Cards.
27. Define Hubs.
28. Define Routers.
29. Define Gateways.
30. Expand TCP, SMTP, POP, and HTTP.

PART-B

1. Explain in detail about data communication over standard telephone lines modems. **(16)**
2. (a)Explain About Digital Data Connections. **(8)**
   (b)Explain in detail about Broadband Connection. **(8)**
3. (a)Describe about DSL Technology with its types. **(8)**
   (b))Describe about the Cable Modem Connections with Diagram. **(8)**
4. Explain about the types of Networks in detail. **(16)**
5. Describe briefly about structure of networks and its types.**(16)**
6. Explain in detail about Network media and hardware. **(16)**

UNIT V - PROBLEM SOLVING AND C PROGRAMMING

PART-A (2 MARKS)

1. Define Program.
2. Define Algorithm.
3. How can you measure the quality of Algorithm?
4. What is a decision Table?
5. What is a Flowchart?

6. What is need for flowchart symbols?
7. What is “Pseudo code”?
8. What is Sequence Logic?
9. What is Selection Logic?
10. What is Iteration Logic?
11. What are the Different types available in “C”?
12. What are Keywords?
13. What is an Operator and Operand?
14. What is Ternary Operator?
15. What are the types of Programming Languages?
16. List out any 5 Features of “C” Applications.
17. What are the Characteristics of Program?
18. Define C Tokens and its types.
19. Define Identifiers and Keywords.
20. What are the Data Types and its types?
21. What is a Variable?
22. Define Constants and its Types.
23. Define Operators and its types.
24. What are the types involved in I/O Operators?
25. Define Decision-making and its types.
26. Define Branching and its types.
27. Define Looping and its Types.
28. Define Arrays and also its types.
29. List out any 10 String Functions in a “C” Compilers.
30. Define Function and its types.
31. What are the Elements of User-Defined Functions?
32. Define Parameters and its types.
33. What is called Recursion?
34. List out any 10 Library Functions of C Header Files.
35. Define Structures.
36. Define Union.
37. Define Pointers.

38. What are the Features of Pointers?
39. What are the Advantages of Pointers?
40. Define Null Pointer.
41. Define Dynamic Memory Allocation (DMA).
42. What are the Advantages of DMA?
43. Define "C" Preprocessor.
44. Define Macro Substitutions.
45. What are the rules for defining Preprocessor?
46. Specify the Header files in "C" language.
47. What re the Preprocessor Directives?
48. What is Global Variable?
49. What is Conversion Specification?
50. What is the difference between Library Functions and User-Defined Function?

PART-B

1. Describe briefly about Flowchart and its types. **(16)**
2. (a)Describe briefly about the advantages of Flowcharts. **(8)**
   (b)Describe Pseudo code with its Advantages and Disadvantages. **(8)**
3. Describe Program Control Structure in Detail.**(16)**
4. Describe briefly about the Structure of a "C" Program, and explain each section Briefly. **(16)**
5. (a) Describe briefly about the Decision Making and its Types. **(8)**
   (b)Describe briefly about the Branching and its types.**(8)**
6. Describe briefly about the Looping and its types, with an example program. **(16)**
7. Describe about the Switch Statement and its types, with example programs. **(16)**
8. Describe briefly about the Arrays and its Types**.(16)**
9. Explain in briefly about pointers with example. **(16)**
10. Give Comparison between call by value and call by reference with an example Program **(16)**
11. (a) Explain in detail about Preprocessor **(8)**
    (b) Explain in detail about the user define functions.**(8)**