Academic Year (2017-18)

Department of Information Technology (Under Graduate Course) B.Sc.IT

Question Bank

Semester – I

Imperative Programming (USIT101)

Questions: Advanced Learner

1. What is Computer? What are the types of Computer ? Explain.
2. Explain the advantages and disadvantages of Computers.
3. Write a program in C to demonstrate the use of Bitwise operators.
4. Write a program in C to demonstrate the use of Assignment operators.
5. Write a program to calculate the simple interest.
6. What are the concepts of call by reference and call by value? Explain.
7. Write a program to display the sum of the first 5 numbers using a function.
8. What are the types of storage classes? Explain any one.
9. Explain the difference between structure and union in C.
10. Explain how members of a structure are accessed by a variable and a pointer in C.

Questions: Slow Learner

1. Describe the structure of the C Program along with examples.
2. Define the following: Variables, array, Keywords, Identifier, Compiler
3. List and explain the different operators used in C.
4. Write a program in C to demonstrate the use of arithmetic operators.
5. Describe the following function: a) printf() b) scanf()
6. Describe a switch statement with a proper example.
7. Explain while loop with proper example.
8. How do the preprocessor directives work as a function? Explain with an example.
9. Explain a 2 dimensional array with an example.
10. What are pointers in C? Write a program in C to add 2 float numbers using pointers.

Assignments

1. What are the basic data types in C? Explain in detail.
2. Write a short note on Structure.
3. Explain the following: strlen(), strcat()
4. Write a program to display the factorial of a given number using recursion function.
5. Explain the following: a) gets() b) puts()

Digital Electronics (USIT102)

Questions: Advanced Learner

1. Write a note on Excess-3 code with example.
2. Calculate hamming code for 1100 using even parity.
3. Convert the following numerical form into sum of product. $F(A,B,C)= \sum m(0,2,5,6)$
4. Prove with the help of truth table: A (A+B) = A

5. Design a 4 bit binary to gray convertor.
6. What is full subtractor? Design full subtractor.
7. Design a 4bit parity generator.
8. Write a note on SR Flip-Flop.
9. Draw IC 7493.
10. Design mod 4 regular sequential synchronous up counter using T Flip-Flop.

Questions: Slow Learner

1. Write steps to convert binary to gray. Convert (1110)binary to gray.
2. Write a note on straight binary code with example.
3. Write a note on AND operation.
4. Write a note on OR operation.
5. Design a combinational circuit for following:Inputs are four lines A,B,C,D (A=MSB), carry binary equivalent of decimal(0 to 9).Output y=1 when input contain two or more bits 1 otherwise output y=0.
6. Design a logic circuit where output is HIGH only when a majority of inputs A,B,C are low.
7. Design 4 bit multiplexer using basic gates.
8. Implement 8 bit multiplexer using 4 bit multiplexer.
9. Distinguish between asynchronous and synchronous counters.
10. Write a note on modulo- N counter.

Assignments

1. Write a note on Teletypewriter code.
2. Prove that: A + AB =A.
3. Implement 8 bit adder using 4 bit adder.
4. Explain encoder with the help of block diagram.
5. Write a note on bushing.

Operating Systems (USIT103)

Questions: Advanced Learner

1.What are the various objectives and functions of Operating systems?
2. What are the major activities of an operating systems with regard to process management?
3.What is a process ?explain different process states.
4. Explain about process scheduling? Explain different types of schedulers?
5.Explain about advantages and disadvantages of paging? And Explain difference between paging and segmentation?
6.Write the resource allocation algorithm for dead lock?
7. Explain about Deadlock Prevention
8. Explain about Deadlock Avoidance
9.Briefly explain and compare, fixed and dynamic memory partitioning schemes.
10.What is virtual memory? Mention its advantages

Questions: Slow Learner

1.What is an operating system?What are operating system services?
2. Describe the operating system operations?. Describe the operating system functions?
3.Explain Round Robin scheduling algorithm with example.
4. Explain about different multithreading models

5.Define critical section?
6.Define semaphores.
7. Name some classic problem of synchronization?
8.What are the various File Operations?
9. What is Directory? What are the operations that can be performed on a Directory?
10.What are necessary conditions for deadlocks?

Assignments

1.What is system calls in OS? Explain in detail with its types.
2. Discuss the Simple Operating System Structure. Describe the layered approach
3. What are different types of operating system? Explain them in detail
4. Explain User Operating-System Interface in detail
5. Explain operating system functions and services in detail.

Discrete Mathematics(USIT104)
Please refer Mathematics Q.Bank
Communication Skills (USIT105)