



MONAD University
N.H. 24, Delhi Hapur Road,
Village & Post Kastla, Kasmabad, P.O Pilkhuwa - 245304,
Dist. Hapur (U.P.), India

Assignment No: 2

Programme (Branch)/Sem:.....

Course Name:-.....

Submitted by :-

Candidate's Name:.....

Enrollment No.:-

Roll No. :-

Date of Submission:-

Submitted to:-

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**Programme: B.Tech (CSE-Vth
Sem.)**

Course Name: Operating System

Course Code: BTCS-311

Assignment No: 2

Due date of submission: 23.10.2017

Instructions

1. Write the responses to the assignment in your own handwriting.
2. Submit the responses to your HoD within the due date.
3. Write your Name, Programme and Enrollment No. clearly at the top of page.

Question No. 1.

a) As you know about Critical Section problem. Explain critical section and race conditions. Also give the Producer-Consumer solution for critical section problem.

b) As you are aware of system call. You will learn more, if you attempt to explain system calls for windows and UNIX operating systems. Do it.

Question No. 2.

a) You are aware of Scheduling. So, you can discuss preemptive and non-preemptive scheduling with the help of an example of each. Also discuss the criteria for CPU scheduling. Do it.

b) Consider the following table :

Process	Burst Time
P1	5
P2	6
P3	4
P4	2

Draw Gantt chart and calculate Average Waiting Time (AWT) and Average Turn Around Time (ATAT) for FCFS and SJF (Non-preemptive) scheduling algorithms.



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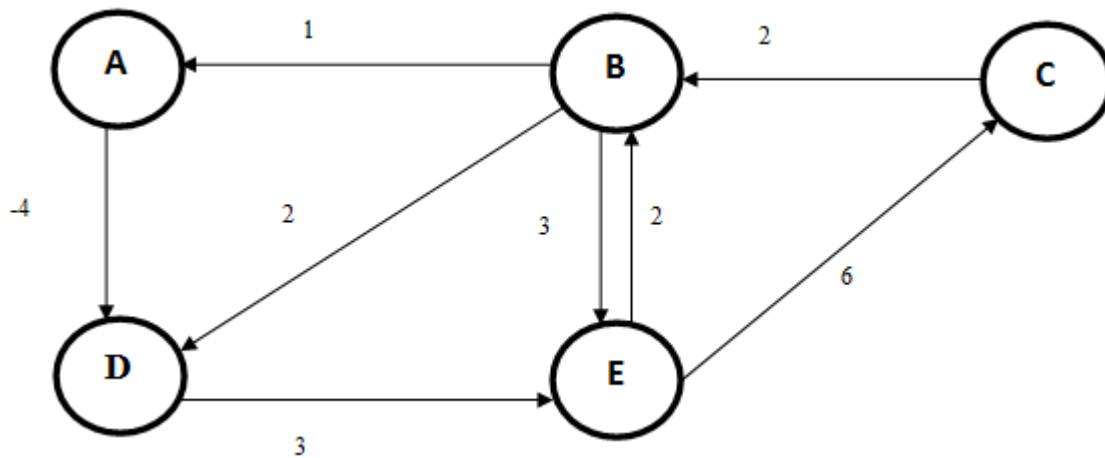
Programme: B.Tech (CSE-Vth Sem.)
Course Name: Design and Analysis of Algorithms
Course Code: BTCS-312
Assignment No: 2
Due date of submission: 23.10.2017

Instructions

1. Write the responses to the assignment in your own handwriting.
2. Submit the responses to your HoD within the due date.
3. Write your Name, Programme and Enrollment No. clearly at the top of page.

Question No. 1.

- a) As you are aware of Branch and Bound technique. So, explain this technique for Travelling Salesman problem with the help of an example.
- b) As you are aware of all pair shortest path. So, you can explain Floyd Warshall algorithm for the given graph.



Do it.

Question No. 2.

- a) You are aware of minimum spanning trees. So, explain Kruskal's and Prim's algorithms to find the minimum cost spanning tree with the help of an example.
- b) You know about string matching. So, you can explain string matching with finite automata with the help of an example. Do it.



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Programme: B.Tech (CSE-Vth Sem.)

Course Name: Computer Organization

Course Code: BTCS-313

Assignment No: 2

Due date of submission: 23.10.2017

Instructions

1. Write the responses to the assignment in your own handwriting.
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Question No. 1.

- a) Explain Booth's algorithm with the help of an example.
- b) What are the instruction sets for the arithmetic statement:

$$X = (A - B) * C.$$

Question No. 2.

- a) Explain memory hierarchy.
- b) Explain types of interrupts and exceptions.



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Programme: B.Tech (CSE VthSem.)

Course Name: Computer Network

Course Code: BTCS-314

Assignment No: 2

Due date of submission: 23.10.2017

Instructions

1. Write the responses to the assignment in your own handwriting.
2. Submit the responses to your HoD within the due date.
3. Write your Name, Programme and Enrollment No. clearly at the top of page.

Question No. 1.

a) As you are aware of congestion control. So, you can explain one of the techniques for congestion control in computer network. Do it.

b) As you know about transport layer and session layer. You will learn more, if you attempt to explain the design issues of both the layers. Go ahead.

Question No. 2.

a) As you know the working of internet. So, you can explain TCP/IP model in detail. Do it.

b) As you know about IPV4 and IPV6. So, you can give the differences between them. Do it.



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Programme: B.Tech (CSE-Vth Sem.)

Course Name: OOPs with C++

Course Code: BTCS-315

Assignment No: 2

Due date of submission: 23.10.2017

Instructions

1. Write the responses to the assignment in your own handwriting.
2. Submit the responses to your HoD within the due date.
3. Write your Name, Programme and Enrollment No. clearly at the top of page.

Question No. 1.

- a) Create a class Employee . Include Emp-no, Emp-name, Basic-Salary , DA ,HRA, Conveyance and Medical as data members. Include member functions to accomplish the following :
- (i) Accept Emp-no, Emp-name and Basic-Salary from the user.
 - (ii) Calculate DA as 50%of Basic Salary and HRA as 30% of Basic-Salary.
 - (iii) Initialise conveyance and Medical to Rs. 2000/ and Rs. 1000/ respectively, whenever on object is created.
 - (iv) Count the number of objects created.
 - (v) Display the data of all employees entered and the gross salary computed as sum of the Basic -Salary, DA, HRA ,Conveyance and Medical.

Write the appropriate Class and main function for the above.

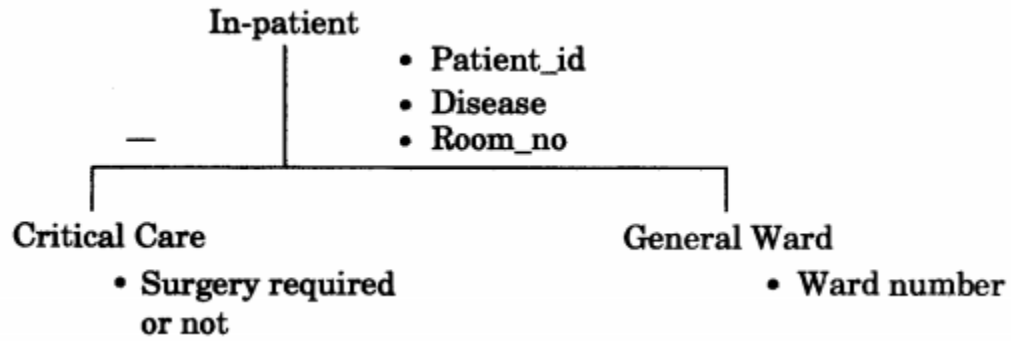
- b) As you are aware of different statements available in c ++, you will learn more if you program the following with the help of class & objects :

To input 2-D arrays of integers of the size 4X4 and print its contents in the *Matrix* form. Also, perform a *Search* operation on this Matrix.

Question No. 2.

- a) As you are aware of functions in c++, now, discuss Virtual functions in c++ ? Where are they needed? Are virtual functions inherited? Justify your answer with the help of an example.

- b) Consider the following class hierarchy along with suggested data members:



Design and implement the classes in the hierarchy using C++. You may add more data members, if needed. You should include at least one constructor in each class. All the classes should have a member function **print_patient_info()** that prints all the data stored in the object of that class. You must demonstrate polymorphism using the **print_patient_info()** and **main()** functions.



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Programme: B.Tech (CSE-Vth Sem.)
Course Name: Engineering and Managerial Economics
Course Code: EME-351
Assignment No: 2
Due date of submission: 23.10.2017

Instructions

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Question. No.:- 1.

- a) You are aware of the business fluctuations in the economy, now discuss about the phases of business cycle.
- b) As you are familiar to the concept of Monetary Economics, now discuss about the merits and demerits of Demonetisation in the Economy.

Question. No.:- 2.

- a) Discuss about the concepts of Fixed Cost, Variable Cost, Average Cost, Marginal Cost and Opportunity Cost.
- b) Define Managerial Economics with its scope in engineering perspective.