

Exam.	Back		
Level	BE	Full Marks	80
Programme	BCT	Pass Marks	32
Year / Part	III / I	Time	3 hrs.

Subject: - Software Engineering (CT 601)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.



1. Define Software Process Model. Differentiate Spiral model and Incremental model highlighting their advantages and disadvantages. [2+6]
2. For better healthcare facilities in remote areas, Ministry of Health (MOH) launches telemedicine project. Through this project expert doctor from central hospital can examine patient in remote places through video conferencing. MOH propose to maintain central server to hold all patient records and medical history. Also system should be able to manage routine of doctors, appointments and follow ups. Assume that you are technical lead of the project.
 - a) List all the functional and non-functional requirements of the system.
 - b) Draw DFD level 1.[3+5]
3. Draw context level DFD and use case diagram for the following case. Suppose your organization is going to develop a system for a restaurant. The system should let the customer to make request for their order and pay for services. When customer requests for an order, system records order of the system, save it into record and receives payment from customer and save it into database and serve the order. The restaurant staffs received the sales forecast from the system and produce and store product if necessary. Details of product should be stored on Inventory database. Also system makes payment to staffs according to their working time/hour by checking on time cards database. Vendor should receive order and payment from the system and provides foods. The payment to the vendor should be stored on vendor database and details of the received foods from vendor should be stored on received items. [2+5]
4. What is system architecture? Explain its importance. Explain the pipe and filter architecture and call return architecture in brief. [2+3+2+2]
5. Compare hard and soft real-time systems. What is a real-time operating system? [2+2]
6. What is software reuse? What are the factors that should be considered during software reuse? Explain about Commercial –off-shelf (COTS) product reuse. [2+2+4]
7. Explain the processes for CBSE with reuse and CBSE for reuse with block diagrams. [4]
8. Differentiate between Verification and Validation. Discuss the process of Software Inspection along with the types of faults that can be uncovered through software inspection. [5+5]
9. List various software cost estimation techniques. Explain cyclomatic complexity as a software metric. [3+3]
10. Explain formal technical review process. What are the differences between CMM and ISO standards for software quality? [5+5]
11. Define Version, Variants and Release with respect to configuration management. Explain various version naming approaches. [3+3]