Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058-India
(Autonomous Institute Affiliated to University of Mumbai)

Mid Semester Examination
September– 2018
Synoptic

Max. Marks: 20

Class: F.Y.

Course Code:**MCA12**

Name of the Course: **Software Engineering**

Duration: 1 Hr

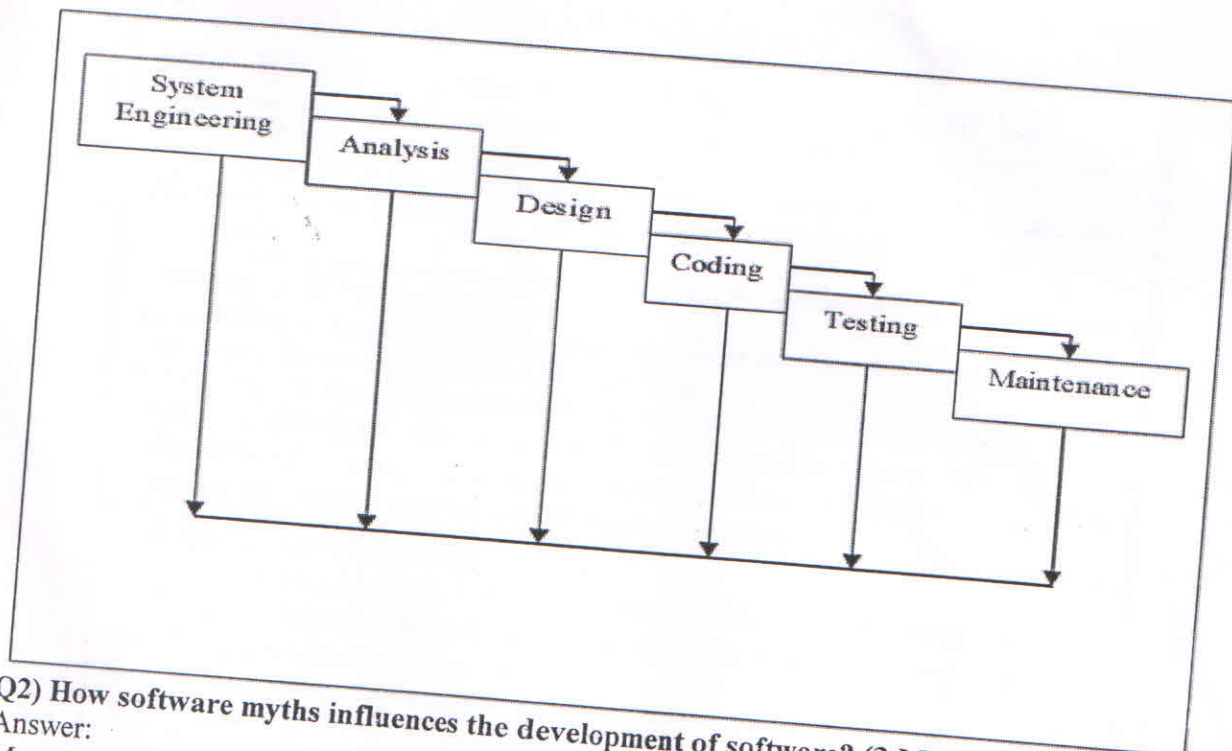Semester:I

Branch:M.C.A.

Q1) Which lifecycle model would you follow for developing Library management software .Mention the reasons behind your choice of a particular life cycle?[CO 1 Apply] (7 Marks)

Answer:

Library management software –Waterfall model. [1]

Phases explanation of Waterfall model [5]

Diagram[1]

Q2) How software myths influences the development of software? (3 Marks)

Answer:

Management myths [1] Customer myths [1] Practitioner myth[1]

OR

Q2) Illustrate the major software characteristics.

Answer:

Characteristics: any 3 points with explanation, each point carries 1 mark

1. Software is developed or engineered; it is not manufactured in the classical sense.

2. Software doesn't "wear out."

3. Although the industry is moving toward component-based construction, most software continues to be custom built.

4. Software is Flexible

Q3. Justify System testing is carried out at the end of testing life cycle.
(4 marks)
Answer:

The test sequence is : Unit, Integration, Validation, and then System testing. Before starting System testing, Unit, Integration, and Validation testing is done. Each test checks the software from different perspectives. Unit test tests the Coding, Integration test tests the design, Validation test tests the requirement, and System test tests System Engineering. In System testing recovery, security, stress, and performance is tested. For this it is prerequisite that the software coding, designing, requirements should be tested. If the software performs well for first 3 phases of testing, then it may or may not perform well in System testing. But there is a chance if software performs well for first 3 phases, system test will also works better.

Q4. Develop RMMM plan using Risk Information Sheet where risk is defined as "Only 70 percent of the software components scheduled for reuse will, in fact, be integrated into the application. The remaining functionality will have to be custom developed." (4 Marks)
Answer:

Risk information sheet			
Risk ID: P02-4-32	Date: 5/9/04	Prob: 80%	Impact: high

Description:
Only 70 percent of the software components scheduled for reuse will, in fact, be integrated into the application. The remaining functionality will have to be custom developed.

Refinement/context:
Subcondition 1: Certain reusable components were developed by a third party with no knowledge of internal design standards.
Subcondition 2: The design standard for component interfaces has not been solidified and may not conform to certain existing reusable components.
Subcondition 3: Certain reusable components have been implemented in a language that is not supported on the target environment.

Mitigation/monitoring:
1. Contact third party to determine conformance with design standards.
2. Press for interface standards completion; consider component structure when deciding on interface protocol.
3. Check to determine number of components in subcondition 3 category; check to determine if language support can be acquired.

Management/contingency plan/trigger:
RE computed to be $20,200. Allocate this amount within project contingency cost. Develop revised schedule assuming that 18 additional components will have to be custom built; allocate staff accordingly.
Trigger: Mitigation steps unproductive as of 7/1/04

Current status:
5/12/04: Mitigation steps initiated.

Originator: D. Gagne		Assigned: B. Laster

Q5. Estimate Risk Exposure (RE), RE = P X C, for the risk mentioned in question number 4 where probability of the risk is 80 percent, 60 reusable software components were planned, the size of each component is 100 LOC, the cost for each LOC is Rs 400.
(2 marks)

Answer:

The overall cost (impact) to develop the components would be =

= 18 * 100 * 400 = Rs. 7, 20, 000/-   (1 mark)

Risk Exposure, RE = P * C

RE = 0.80 * 7, 20, 000

RE = Rs. 5, 76, 000/-   (1 mark)

OR

Criticize the statement "High probability, high impact risk has less priority in risk table".

Answer:

High probability , high impact risk goes to the top of the risk table because it has higher priority . Where as Low probability, low impact risk goes to the down of the risk table because it has lower priority. (1 mark)

Prioritization of the risk is based on the probability of occurrence of the risk and if the risk occurs what will be the impact of that risk. (1 mark)