

Name:
Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
Supplementary Examination, December 2023

Course: Software Engineering and Project Management
Program: MCA
Course Code: CSEG 7010

Semester: I
Time: 03 hrs.
Max. Marks: 100

Instructions: Attempt all questions.

SECTION A
(5Qx4M=20Marks)

S. No.		Marks	CO
Q 1	Mention the factors that contribute to the software crisis. Also, discuss how software engineering offers a solution to software crises.	4	CO1
Q2	Differentiate between function and non-functional Requirements in a table format.	4	CO2
Q3	“A software program might be good but may not still exhibit good quality” Comment.	4	CO1
Q4	Bring out the importance of Work Breakdown Structure in Software Development.	4	CO4
Q5	List the merits of ISO 9001 certification.	4	CO4

SECTION B
(4Qx10M= 40 Marks)

Q 6	‘Software re-engineering and software reuse are concerned with maximizing software usage for a given development effort and minimizing staff.’ Justify the statement covering the significant aspects.	10	CO1
Q 7	Identify how Agile SDLC can achieve a reduction in development time and cost. Explain the major advantages of using Agile over the Iterative waterfall model.	10	CO2
Q8	State guidelines for Use Case diagram & draw it for Library Management System.	10	CO3
Q 9	Develop a Gantt Chart for the “Result Management System” considering that the project starts in January and ends in May and has the following tasks specified: Overall System Specification, Device Integration, Module A, Module B, Module C, and Integrated Software Testing. (Take assumptions where required). OR Explain situations using examples when the project manager should use a PERT chart and when to use a GANTT chart.	10	CO2

SECTION-C
(2Qx20M=40 Marks)

Q 10	<p>Video-Rental LTD is a small video rental store. The store lends videos to customers for a fee and purchases its videos from a local supplier.</p> <p>A customer wishing to borrow a video provides the empty box of the video they desire, their membership card, and payment – payment is always with the credit card used to open the customer account. The customer then returns the video to the store after watching it. If a loaned video is overdue by a day the customer's credit card is charged, and a reminder letter is sent to them. Each day after that a further card is made, and each week a reminder letter is sent. This continues until either the customer returns the video, or the charges are equal to the cost of replacing the video.</p> <p>New customers fill out a form with their personal details and credit card details, and the counter staff gives the new customer a membership card. Each new customer's form is added to the customer file.</p> <p>The local video supplier sends a list of available titles to Video-Rental LTD, who decides whether to send them an order and payment. If an order is sent, then the supplier sends the requested videos to the store. For each new video, a new stock form is completed and placed in the stock file.</p> <p>Draw the initial context and various levels of dataflow diagrams for the given scenario clearly mentioning your assumptions.</p>	20	CO3
Q 11	<p>a) The nominal effort and duration of a project have been estimated to be 1000PM and 15 months. The project cost has been negotiated to be Rs. 200,000,000. They need the product to be developed and delivered in 12 months' time. What should be the new cost to be negotiated?</p> <p>b) “Projects of specific complexities and sizes often require specific team structures for efficient working.” Compare the different team structures mentioning salient features of each type.</p> <p style="text-align: center;">OR</p> <p>a) State whether the following statements are TRUE or FALSE. Give reasons for your answer</p> <p>i) Legacy software products are those products that have been developed a long time back.</p> <p>ii) Corrective maintenance is the type of maintenance that is most frequently carried out on a typical software product.</p> <p>b) Draw the network diagram and determine the critical path for the following project:</p>	10+10	CO3+ CO4

Activity	Time estimate (Weeks)			
1-2	5			
1-3	6			
1-4	3			
2-5	5			
3-6	7			
3-7	10			
4-7	4			
5-8	2			
6-8	5			
7-9	6			
8-9	4			