

**VIT[®]**Vellore Institute of Technology
(Deemed to be University under section 3 of U.G. Act, 1956)**School of Computer Science and Engineering****Winter Semester 2023-24****Continuous Assessment Test – I****SLOT: C1+TC1***h. Reg.
Practice!***Programme Name & Branch: B.Tech & Computer Science (Core and Specialization)****Course Name & Code: Software Engineering & BCSE301L****Class Number (s):**VL2023240500597, VL2023240500632, VL2023240500656, VL2023240500723, VL2023240500697,
VL2023240500700, VL2023240500594, VL2023240500622, VL2023240500714, VL2023240500588,
VL2023240500707, VL2023240500590, VL2023240500609, VL2023240500648, VL2023240500730,
VL2023240500585, VL2023240500603, VL2023240500650, VL2023240500665, VL2023240500614,
VL2023240500673, VL2023240500719, VL2023240500736**Faculty Name (s):**Dr.Anbarasi M, Dr.Ushus Elizebeth Zachariah, Dr.Akila Victor, Dr.Senthilnathan, Dr.Shashank
Mouli Satapathy, Dr.Murugan K, Dr.Parthiban K, Dr.Arjun R, Dr.Perepi Rajarajeswari,
Dr.Prabin S M, Dr.Sivaprakash S, Dr.Kumaresan A, Dr.Poornima N, Dr.Jafar Ali Ibrahim S,
Dr.Chandru Vignesh C, Dr.Thurai Pandian M, Dr.Madhan E S, Dr.Baskaran P, Dr.Sayan Sikder,
Dr.Yoganand S, Dr.Tamizhselvi S P, Dr.Deepika J, Dr.Saurabh Agrawal, Dr.Rup Kumar Dekka**Exam Duration: 90 Min.****Maximum Marks: 50****Answer all the questions**

Q. No.	Question																		
1(a)	You have been appointed as a project manager for a small software products company. Your job is to build a breakthrough product that combines virtual reality hardware with state-of-the-art software. Because competition for the home entertainment market is intense, there is <u>significant</u> pressure to get the <u>job done</u>. What non-agile software process model(s) would you choose? Justify your answer for choosing the model and for not choosing the other models. (5 marks)																		
1(b)	Match each software lifecycle model in List - 1 to its portrayal in List - 2. <table border="1"> <thead> <tr> <th>S.No.</th><th>List -1</th><th>List -2</th></tr> </thead> <tbody> <tr> <td>1</td><td>Rapid Application Development</td><td>3 Assess risks at each step; do the most critical action first</td></tr> <tr> <td>2</td><td>Evolutionary Prototyping</td><td>5 Standard phases (requirement, design, code, test) in order</td></tr> <tr> <td>3</td><td>Spiral</td><td>Build initial requirement specification for several releases, then design and code in sequence. 4</td></tr> <tr> <td>4</td><td>Staged Delivery</td><td>Build initial small requirement specifications, code them, and then 'evolve' the specifications and code as needed 2</td></tr> <tr> <td>5</td><td>Waterfall</td><td>Build a quick prototype, deliver it to the customer, and take feedback</td></tr> </tbody> </table> (5 marks)	S.No.	List -1	List -2	1	Rapid Application Development	3 Assess risks at each step; do the most critical action first	2	Evolutionary Prototyping	5 Standard phases (requirement, design, code, test) in order	3	Spiral	Build initial requirement specification for several releases, then design and code in sequence. 4	4	Staged Delivery	Build initial small requirement specifications, code them, and then 'evolve' the specifications and code as needed 2	5	Waterfall	Build a quick prototype, deliver it to the customer, and take feedback
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With Analysis

2.	Consider the following application, Coursera, a renowned <u>online learning platform</u> that connects learners worldwide to a vast array of online courses, lectures, and educational content from top universities, institutions, and subject matter experts. Develop the user stories from the <u>end user's</u> perspective for the following scenarios. 1. Student Registration 2. Course Enrollment 3. Progress Tracking 4. Quiz and Project Assessment 5. Course Rating and Feedback (5*2 = 10 marks)
3.(a)	Consider a software project with the following information domain characteristics for calculation of function point metric. Number of external inputs (I) = 30 Number of external outputs (O) = 60 Number of external inquiries (E) = 23 Number of files (F) = 08 Number of external interfaces (N) = 02 Assume the given average weighting factors for I, O, E, F and N are 4, 5, 4, 10 and 7, respectively. It is also given that, out of fourteen value adjustment factors that influence the development effort, four factors are not applicable, each of the other four factors have value 3, and each of the remaining factors have value 4. Compute the Function Point (FP) metric for estimating the size of the project. (5 marks)
3.(b)	Imagine you are tasked with developing a new mobile app that provides access to <u>licensed therapists</u> via <u>video conferencing</u> for residents in <u>rural communities</u>. This app aims to address the rising demand for mental health support in <u>underserved areas</u> by leveraging technology to bridge the geographical gap. i) Identify all the stakeholders involved in this project. (2 marks) ii) Ascertain and prioritize the objectives of the project. (3 marks)
4.	Imagine you are involved in a project for building a new e-commerce platform for a trendy clothing store called "Threads & Co.". Their existing website struggles with <u>outdated design</u>, <u>clunky navigation</u>, and <u>limited functionalities</u>. They aim to attract a wider audience and offer a seamless <u>online shopping experience</u>. As a project manager, you have decided to execute this project in agile methodology. You are asked to finalize any five milestones and the appropriate five <u>deliverables</u> for your project with defined goals. Hint: Breakdown the project into sprints based on your project goal. (10 marks)
5.	An online event booking platform aims to simplify the process of <u>discovering</u>, <u>booking</u>, and <u>attending events</u>. Users can register with their email addresses, browse a diverse range of events, and select the ones that interest them. The system allows users to <u>filter</u> events by location, date, and category. Upon choosing an event, users can view event details, including date, time, venue, pricing, and available tickets. They can then purchase tickets securely using various payment methods, including credit cards and digital wallets. The platform sends confirmation emails with <u>QR codes</u>, which serve as electronic tickets. On the event day, users can simply scan their <u>QR codes</u> at the venue for entry. The system also provides event organizers with the tools to create and manage event listings, track ticket sales, and view attendee information for planning purposes. i) Identify one major non-functional requirements under each of the following relating to the above scenario: security, usability, reliability, recoverability and portability. (5 marks) ii) Assess any five functional requirements for this scenario. (5 marks)