Reg. No. : ☐☐☐☐☐☐☐☐☐☐☐☐

Question Paper Code: U4805

B.E./B.Tech. DEGREE EXAMINATION, APRIL 2024

Fourth Semester

Computer Science and Engineering

21UIT405 SOFTWARE ENGINEERING METHODOLOGY

(Common to IT Branches)

(Regulations 2021)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Compare evolutionary model with waterfall model   CO1-U

2. Draw a use case diagram for an online shopping which should provide CO2-App
   provisions for registering, authenticating the customers and also for online
   payment through any of the payment system like paypal.

3. What is data dictionary?   CO1-U

4. Differentiate PSPEC & CSPEC.   CO2-App

5. What are four phases of a software design model?   CO1-U

6. Differentiate cohesion and coupling with an example.   CO1-U

7. Differentiate verification and validation.   CO1-U

8. How many inputs are required for 100% decision coverage?   CO2-App

   Read A
   Read B
   IF A+B >100 THEN
   Print (A+B is Large)
   ENDIF
   If A >50 THEN
   Print (A is Large)
   ENDIF

9. What is COCOMO-II?   CO1-U

10. List out the various project estimation techniques. CO1-U

<div align="center">PART – B (5 x 16= 80 Marks)</div>

11. (a) (i) What are the goals and objectives of software? CO1-U (8)

      (ii) Write a short notes on the categories of software. CO1-U (8)

<div align="center">Or</div>

  (b) Differentiate the features of various software life cycle models by highlighting their advantages and disadvantages. CO1-U (16)

12. (a) Consider you are associated with a online shopping website designing project. List the functional and nonfunctional requirements for the website design with illustrations and justifications. CO2-App (16)

<div align="center">Or</div>

  (b) Draw an ER Diagram for Student course registration system and Exam registration System in an university. CO2-App (16)

13. (a) What is UML? Explain in detail the various types of UML diagrams. CO1-U (16)

<div align="center">Or</div>

  (b) What are the characteristics of good design? Explain the two quality criteria which are used to measure the functional independence. CO1-U (16)

14. (a) Explain the White box testing techniques with example CO1-U (16)

<div align="center">Or</div>

  (b) Explain the following CO1-U (16)
     (i) Integration Testing (8)
     (ii) System Testing (8)

15. (a) Explain COCOMO-II Model. CO1-U (16)

<div align="center">Or</div>

  (b) Explain the necessity of risk management in a project development. CO1-U (16)

U4805