

Total No. of Questions : 5]

SEAT No. :

PC-3247

[Total No. of Pages : 2

[6383]-1004

M.C.A. (Part-I) (Management faculty)

**IT-14: Software Engineering and Project Management
(2024 Pattern) (Semester - I)**

Time : 2½ Hours]

[Max. Marks : 50

Instruction to the candidates:

- 1) *Draw neat and labelled diagram wherever necessary.*
- 2) *Non-programmable calculator is allowed.*

Q1) Air Traffic control (ATC) system will monitor and control the movement of aircraft in a given airspace. The system will provide real- time updates on aircraft positions, flight paths, and communicate instructions between air traffic controllers and pilots to ensure safety and efficiency in air traffic operations. Prepare Software Requirement Specification (SRS) in detail as per IEEE format. **[10]**

Q2) Draw the use case diagram and class diagram for following case study. ABC college has leave management system where employee fill the time sheet every day. When he/she wants to obtain leave they have to apply to the HOD. HOD can cancel or recommend the leave. The leave is sanctioned by the Director according to HOD'S recommendation. The registrar manages the leaves and generates reports. **[10]**

OR

Draw the Activity diagram for following case study.

The DTE Maharashtra CET cell administers Common Entrance Test (CET) for MCA course in Maharashtra. Following tasks are performed throughout the registration process.

- Candidate has to register on official website
- Candidate has to provide personal, academic, category details and upload necessary documents using login credentials.
- Candidate has to pay the application fee online through debit card, credit card or net banking.

P.T.O.

- After successful registration candidate will be notified about admit card.
- Candidate can download the admit card from CET cell website.
- CET cell display schedule of exam on website.
- Candidate attend the exam as per schedule.
- CET cell will also declare the result. [10]

- Q3)** a) Suppose a project was estimated to be 400 KLOC. Calculate the effort and development time of organic model, [5]
- b) Explain Capability Maturity Mode (CMM) in detail [5]

OR

A software development company is responsible for developing a new mobile application for a client. However, during the course of project it experiences significant cost overruns, exceeding the initial budget.

As a project manager, you have been asked to suggest risk management strategy after identifying the risks. [10]

- Q4)** a) A startup named “Kissan” aims to develop a vegetable & fruits delivery application, The “Kissan” company intends to deliver fresh vegetables & fruits within specified time window, allowing customers to place the orders via mobile application.

Write the user stories for this scenario. [5]

- b) Elaborate Agile project life cycle with suitable diagram [5]

OR

- a) ‘Gofast’ is a transportation company that provides ride sharing & ride booking services to the passengers. Passengers can book and share the rides through mobile application. The company rates frequent feedback & reviews from user (s). As a user discuss the user stories for the same. [5]

- b) Explain GitHub in detail. [5]

Q5) Write short note on (any 2) : [10]

- Agile manifesto
- Team Management
- Agile tools
- SCTN