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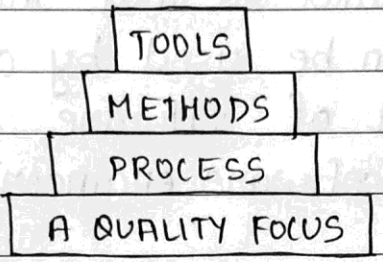
SUB : SE

UNIT TEST I
26/02/2021

(1)

Q11. Software engineering is a layered technology. Any engineering approach (including SE) must rest on organizational commitment to quality. Total quality management, 6 sigma & similar philosophers foster a continous process improvent culture & it is this culture that ultimately leads to the development of increasing more effective approaches to SE



→ The bedrock that supports SE is a quality focus

→ The foundation for SE is the process layer. The SE process is the glue that holds that the technology layers together & enables rational & timely development of computer software. The software process forms the basis for management control of software project & establish the context in which technical methods are applied work products are produced, milestone are established, quality is ensured & change is properly managed.

→ Software Engineering method provide the technical how to's for building software. Methods encompass a broad array of tasks that include communication, requirement analysis, design, modelling, program

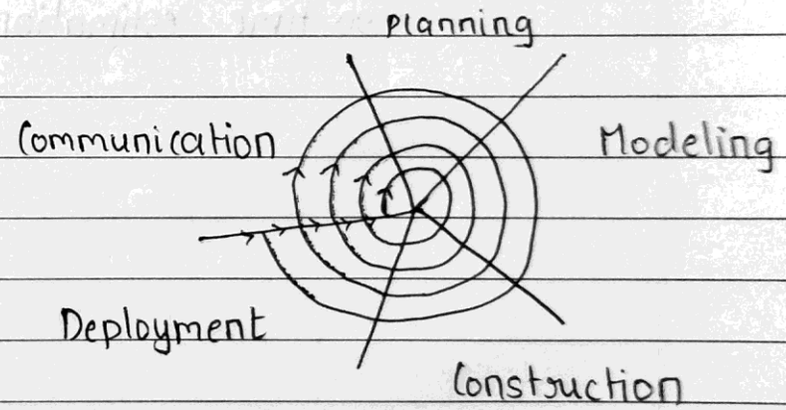
construction, testing & support. SE methods rely on a set of basic principles that govern each area of technology & include modelling activities and other descriptive techniques.

→ Software engineering tools provide automated or semiautomated support for the methods. When tools are integrated so that information created by one tool can be used by another, a system for the support of software development, called computer-aided software engineering is established.

Q 12. We can use waterfall model in following situations

(i) This model is used only when the requirements are very well kown, clear & fixed.
(ii) Product defination is stable
(iii) Technology is understood
(iv) The project is short
(v) Ample resources with required expertise are available
(vi) There are no ambiguous requirements.

→ SPIRAL MODEL is the risk-based software developement process model



ADVANTAGES OF SPIRAL MODEL

↳ RISK HANDLING - projects with many unkown risk that occur as the development proceed, in that case Spiral model is best.
↳ Good for large products - It is recommended to use the spiral model in large & complex projects
↳ Flexibility in requirements - change request in the requirements at later phase can be incorporated accurately by using this model.
↳ customer satisfaction - customer can be seen that th.

development of the product at the early phase of software development.

DISADVANTAGES OF SPIRAL MODEL

↳ COMPLEX - the spiral model is much more complex than other SDLC models
↳ EXPENSIVE - It is not suitable for small projects as it is expensive
↳ Too much dependable on risk analysis
↳ Difficulty in time management - as number of phases is unknown at the start of project, so time estimation is difficult.

Q13. A technical project requires diverse kills. for example a high scale web app depends on designers, front-end, back-end devs, coders, Dev-ops managers, system admins and QA developers, etc.-

Thus, a software team operates quite differently as compared to a team in any other field.

→ SOFTWARE DEVELOPER CHARACTERISTICS

(I) TECHNICAL SKILL - SE write clean, logical, high-quality code using test-driven development & agile practices

(II) COMPUTER SCIENCE FUNDAMENTALS - developers have a strong gasp of computer science fundamentals.

(III) THE ABILITY TO SELF MANAGE - they may need to work on maker-led terms. They must be focused, self directed and good at managing work.

(IV) A CONSULTANT MINDSET - goal is to create product which will provide max. value for the client's investment. To accomplish this, makers develop a consultant mindset that leds us delve into business context & closely manage our time.

(v) CURIOSITY & LOVE OF LEARNING - developers are required to be fast learners who can quickly ramp into new toolset or language

(vi) A PASSION FOR DEVELOPMENT - developers need to be passionet about doing really good work to refine practices.

(vii) STRONG COMMUNICATION SKILLS - as consultants on small teams SE work closely with clients & their users -learning, exploring, etc.-

(viii) THE ABILITY TO BE GOOD TEAM MEMBER - SE developers work side-by-side with designers, clients & other developers; discussing our work & managing constant flow of feedback.

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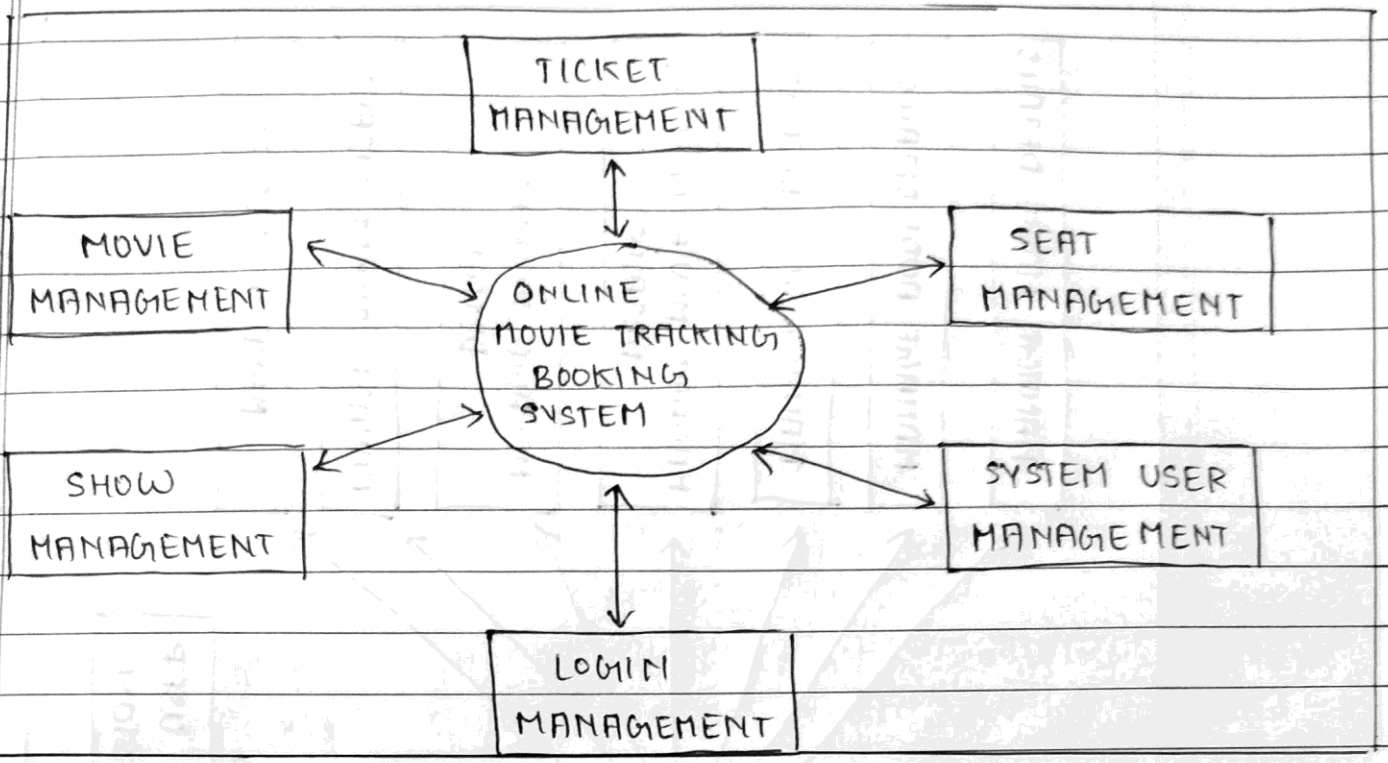
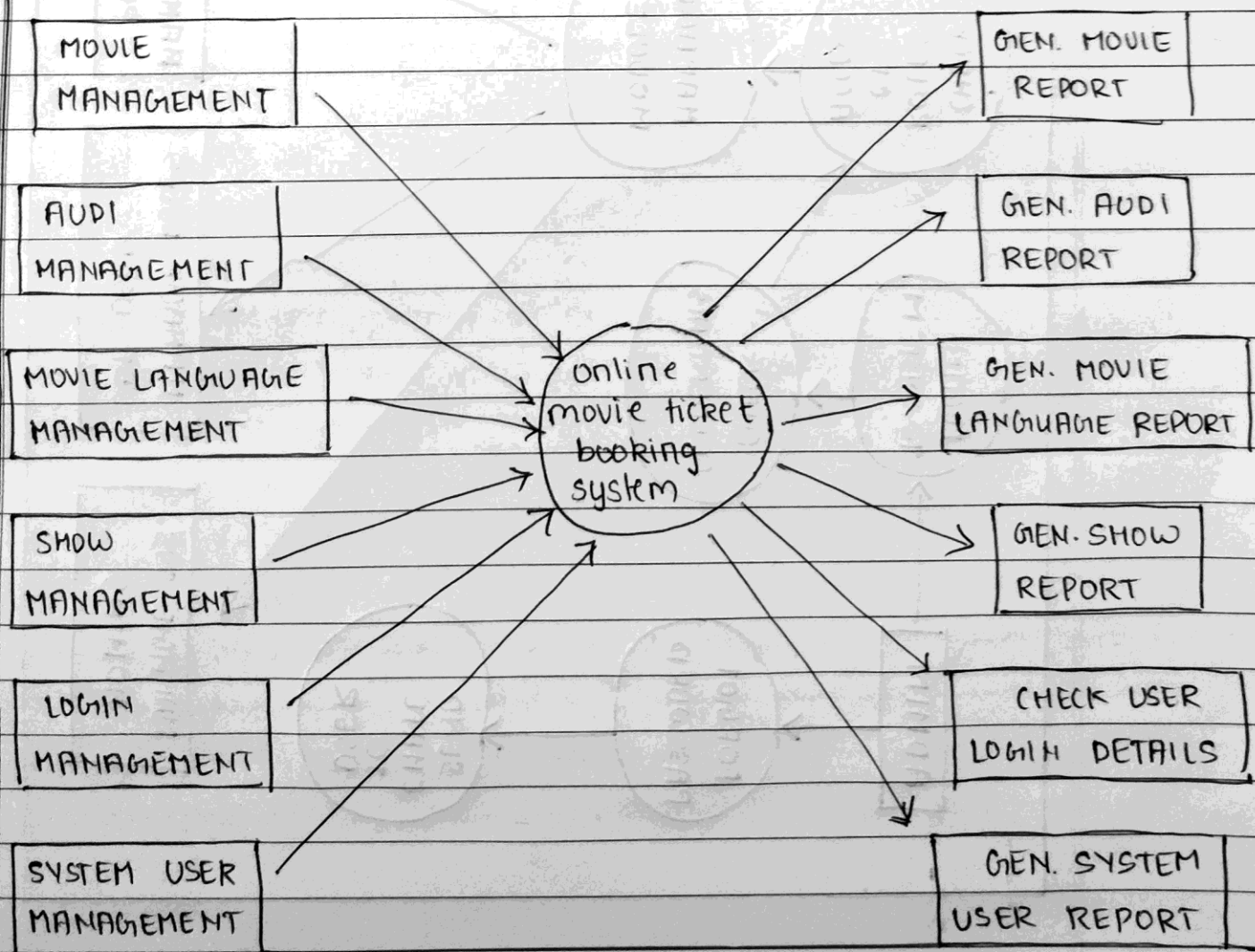
Q14.



→ zero level DFD - online movie ticket booking system



→ FIRST LEVEL DFD - online movie ticket booking system

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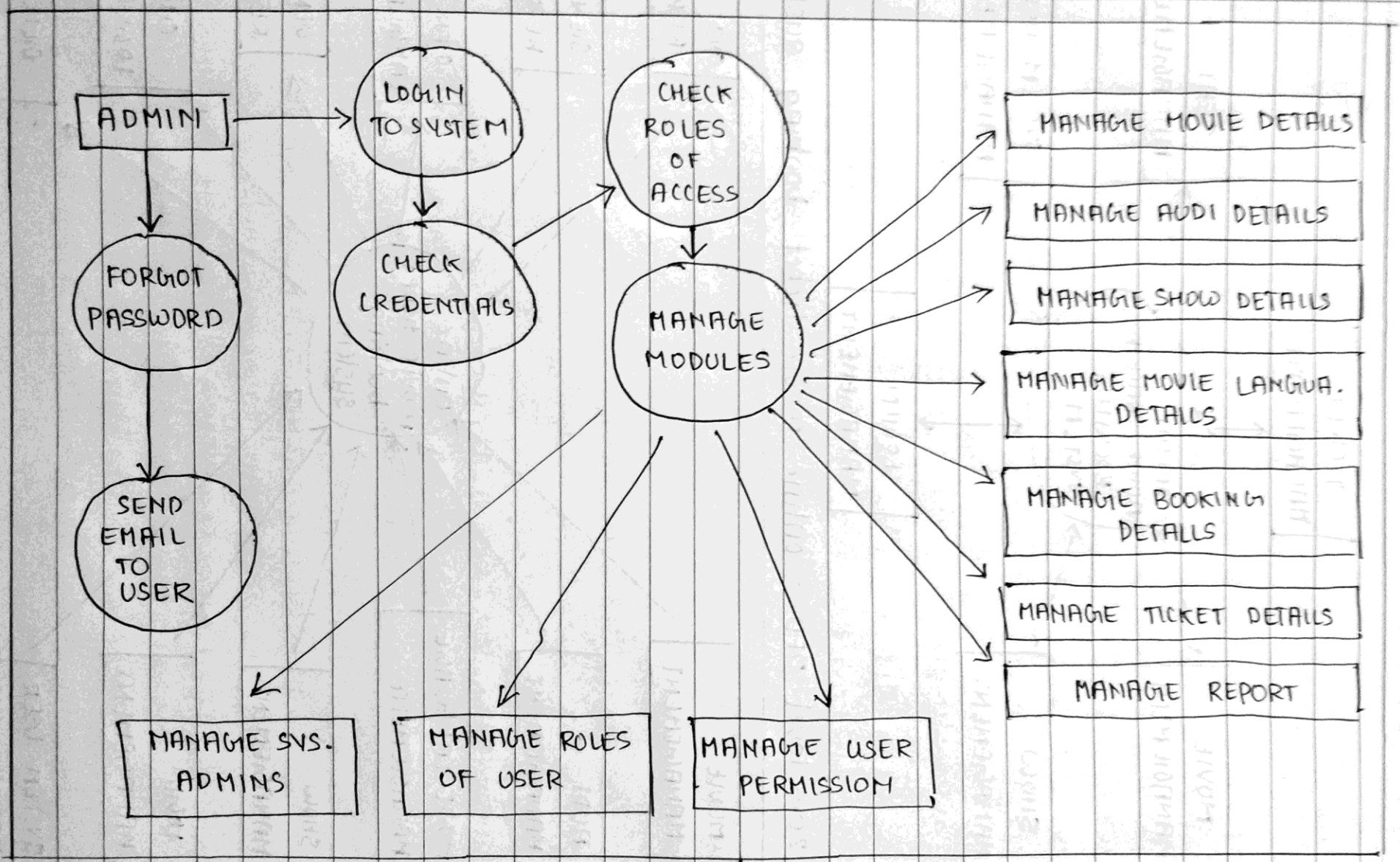

→ second level DFD - online ~~recording~~ movie ticket booking system