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BE Degree Examination December 2022

Seventh Semester

Computer Science and Engineering

18CSE22 – SOFTWARE PROJECT MANAGEMENT

(Regulations 2018)

Time: Three hours

Maximum: 100 marks

Answer all Questions

Part – A ( $10 \times 2 = 20$  marks)

1. Define Plans, Methods, and Methodologies with Examples. [CO1,K1]
2. Distinguish between software projects and other projects. [CO1,K2]
3. List the various types of project products created by the Step Wise planning process. [CO2,K1]
4. Project A has 10 inputs and 20 outputs. Project B has 12 inputs and 18 outputs. A new project has 7 input and 15 outputs. Find the closest analogy for the new project using Euclidean distance. [CO2,K3]
5. What are the objectives of Activity planning for a project? [CO3,K1]
6. Draw the diagrammatic labelling conventions of activities in "Activity on node". [CO3,K1]
7. Differentiate between Time Variance and Cost Variance. [CO4,K2]
8. A system is required by a national Government that calculates records and notifies individual tax payers about income tax charges. In the above case, identify the type of application package to be adopted as bespoke, off-the-shelf or COTS. [CO4,K3]
9. Is it right to put most able people in one team? Justify. [CO5,K2]
10. Suggest some methods to overcome stress in working environment. [CO5,K2]

Part – B ( $5 \times 16 = 80$  marks)

11. a. i) Mr.George has been recruited as a project manager for project ABC in an organization. Help him to plan for his project in an effective way by describing him various cost benefit evaluation techniques. (16) [CO1,K3]
- (OR)
- b. i) Mr.Kavin has been recruited as a project manager and Mr.Rajan as Programme Manager. Help them in explaining the activities carried out in software project management and also explain programme management and its types. (16) [CO1,K3]
12. a. i) Explain in detail on the Bottom-up and Top-down Software Effort Estimation techniques. (12) [CO2,K2]
- ii) Describe how the project schedule will be represented in the Gantt chart with an example. (4) [CO2,K2]

(OR)

- b. i) Explain the step wise project planning process and the activities in each of (12) [CO2,K2]  
the process in detail
- ii) Describe on Boehm's COCOMO model and highlight how it contributes for (4) [CO2,K2]  
effort estimation.

13. a. Create the precedence activity node network using the following details: (16) [CO3,K3]

Activity	Duration (days)	Depends on
A	5	-
B	7	-
C	6	A
D	5	B
E	10	B
F	15	-
G	8	E, F
H	8	C, D

From this network calculate the earliest and latest start and end dates and the float value. Identify the critical path.

(OR)

- b. Below are details of a project. All times are in days. (16) [CO3,K3]

Activity	Depends on	Optimistic time	Most likely	Pessimistic time
A	-	8	10	14
B	A	3	5	7
C	B	10	15	21
D	A	2	3	5
E	A	5	8	12
F	E	18	20	22
G	D	4	6	8
H	C,F,G	7	10	14

Using the activity times above

- Calculate the expected duration and standard deviation for each activity
- Identify the critical path
- Calculate the standard deviation for each node in the network.

14. a. i) Mr.Raja has been assigned as a project manager (client side) in an organization. The project is outsourced to the company ABC inc. and he is responsible for signing the contract with ABC inc. and to manage the project from their side. Help him to choose a type of contract by listing out the way the payment is settled to suppliers. Explain the type of contracts with its advantages and disadvantages (10) [CO4,K2]
- ii) Suppose a project is budgeted to cost Rs.12,00,000. The project is to be completed in 36 months. After 6 months the project is 25% completed at an expense of Rs.1,00,000. It was planned that after 6 months 30% of the project work should have been completed. Compute Cost Performance Index (CPI) and Schedule Performance Index (SPI). Interpret these values to assess the progress of the project. (6) [CO4,K3]

(OR)

- b. i) Mr.Raja has been recruited as a project manager (client side) in an organization. The project needs to be outsourced to some organization and Mr.Raja is responsible for placing the contacts through tender process. Help him in conducting contract placement process smoothly by explaining all the stages. (10) [CO4,K2]
- ii) Suppose a project is to be completed in 2 years at the cost of Rs.2,00,000. After 3 months, you realize that the project is 20% complete at a cost of Rs.30,000. Assess the performance of the project. Calculate revised cost estimate (EAC) for the project. (6) [CO4,K3]
15. a. i) Explain the motivation models that motivate the people for work. (8) [CO5,K2]
- ii) Describe in detail on the recruitment process for selecting right person for the job (8) [CO5,K2]
- (OR)
- b. i) Explain in detail on different types of organization and team structures for effective functioning of the organization. (8) [CO5,K2]
- ii) Explain in detail on Oldham – Hackman Job Characteristics Model. (8) [CO5,K2]

Bloom's Taxonomy Level	Remembering (K1)	Understanding (K2)	Applying (K3)	Analysing (K4)	Evaluating (K5)	Creating (K6)
Percentage	8	50	42	-	-	-