*Basavarajeswari Group of Institutions*
# BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT
(Autonomous Institute under Visvesvaraya Technological University, Belagavi)

USN ☐☐☐☐☐☐☐☐☐☐    **Course Code**    | 2 | 1 | C | S | 6 | 1 |

Sixth Semester B.E. Degree Examinations, September/October 2024
## SOFTWARE PROJECT MANAGEMENT
**(Common to CSE & AIML)**

**Duration: 3 hrs**      **Max. Marks: 100**

*Note:*   *1. Answer any **FIVE** full questions choosing ONE full Question from each Module.*
     *2. Missing data, if any, may be suitably assumed*

| *Q. No* | | *Question* | *Marks* | *(RBTL:CO:PI)* |
|---|---|---|---|---|
| | | **Module-1** | | |
| 1. | a. | **Identify** and list the characteristics of a software project. | 07 | (2 :1 : 1.6.1) |
| | b. | **Outline** and discuss about the activities of the software project management. | 07 | (2 :1 : 1.6.1) |
| | c. | Identify and list the SMART objectives for a software project. | 06 | (3 :1 : 1.6.1) |
| | | **OR** | | |
| 2. | a. | Identify and explain contents of the business case document. | 07 | (2 :1 : 2.5.1) |
| | b. | Give the detailed list of step wise project planning with neat sketch. | 07 | (2 :1 : 2.5.1) |
| | c. | List and explain the activities of the ISO 12207 software development life cycle. | 06 | (3 :1 : 2.5.1) |
| | | **Module-2** | | |
| 3. | a. | **Calculate** the net profit, payback period, Return on Interest (ROI), net present value for the following project. Rate of discount r = 10%. | 10 | (3 :1 : 2.5.1) |

| Year | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| Cash Flow | –1,00,000 | 10,000 | 10,000 | 10,000 | 20,000 | 1,00,000 |

| | | | | |
|---|---|---|---|---|
| | b. | **Outline** the significance of eight core principles of dynamic systems development method. | 10 | (2 :1 : 2.5.1) |
| | | **OR** | | |
| 4. | a. | **Calculate** the Net present value and Internal Rate of Return for the given project. | 10 | (3 :1 : 2.5.1) |

| Year | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| Cash Flow | –1,36,000 | 30,000 | 40,000 | 60,000 | 30,000 | 20,000 |

| | | | | |
|---|---|---|---|---|
| | b. | **Analyze** the process of project functional measurements using COSMIC Full Function Points. | 10 | (3 :2 : 2.8.2) |
| | | **Module-3** | | |
| 5. | a. | **Build** and perform the USDP product breakdown structure of the given software project and explain in detail. | 07 | (4 :3 : 3.7.1) |

**Note: (RBTL - Revised Bloom's Taxonomy Level: CO - Course Outcome: PI– Performance Indicator)**

| | | | |
|---|---|---|---|
| **b.** | Suppose a project was estimated to be 400 KLOC. Calculate the effort and development time for each of the three model i.e., organic, semi-detached & embedded. | **07** | **(3 :2 : 2.8.2)** |
| **c.** | Briefly discuss about agile process model. | **06** | **(3 :2 : 1.6.1)** |

**OR**

**6. a. Construct** the network model and conduct the forward & backward pass techniques to find duration, critical path for the given project.      **07**    **(3 :3 : 3.7.1)**

| Activities | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| Precedents | -- | -- | A | B | B | -- | E,F | C,D |
| Duration | 6 | 4 | 3 | 4 | 3 | 10 | 3 | 2 |

**b.** Consider a software project using semi-detached mode with 300 KLOC. Find out effort estimation, development time, and person estimation.      **07**    **(3 :3 : 2.8.2)**

| Project Type | a | b | c | d |
|---|---|---|---|---|
| Organic | 2.4 | 1.05 | 2.5 | 0.38 |
| Semi-Detached | 3.0 | 1.12 | 2.5 | 0.35 |
| Embedded | 3.6 | 1.20 | 2.5 | 0.32 |

| | | | |
|---|---|---|---|
| **c.** | Briefly describe COCOMO-II Model? | **06** | **(3 :3 : 2.8.2)** |

## Module-4

| | | | |
|---|---|---|---|
| **7.** | **a.** | Explain in detail with a flow chart the project control cycle. | **07** | **(2 :4 : 1.6.1)** |
| | **b.** | Explain the steps of change control procedure for operational systems. | **07** | **(2 :4 : 1.6.1)** |
| | **c.** | State the problems that can occur in absence configuration management system. | **06** | **(2 :4 : 1.6.1)** |

**OR**

| | | | |
|---|---|---|---|
| **8.** | **a.** | List various types of contracts highlighting its advantages and disadvantages. | **07** | **(2 :4 : 1.6.1)** |
| | **b.** | Write a short notes on earned value analysis. | **07** | **(2 :4 : 1.6.1)** |
| | **c.** | Explain various terms of a contract in a software project. | **06** | **(2 :4 : 1.6.1)** |

## Module-5

| | | | |
|---|---|---|---|
| **9.** | **a.** | Explain the places in step wise framework w.r.t important staffing concerns with a neat figure. | **10** | **(2 :5 : 1.6.1)** |
| | **b.** | Explain the terms (i) Stress (ii) Health and Safety | **10** | **(2 :5 : 1.6.1)** |

**OR**

| | | | |
|---|---|---|---|
| **10** | **a.** | Define functional team format and matrix team organization with its main advantages and disadvantages. | **10** | **(2 :5 : 1.6.1)** |
| | **b.** | Explain the terms (i) Communication Plans (ii) Leadership | **10** | **(2 :5 : 1.6.1)** |

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