

**PALLAVAN COLLEGE OF ENGINEERING – THIMMASAMUDRAM**  
**DEPT OF COMPUTER SCIENCE & ENGINEERING**  
**IT2403 – SOFTWARE PROJECT MANAGEMENT**  
**UNIT – II**  
**PROJECT EVALUATION**  
**PART – A(2 MARKS)**

1) What is called Return On Investment? Give an example.(May/June 2012)

The return on investment(ROI), also known as the accounting rate of return(ARR), provides a way of comparing the net profitability to the investment required.

$$\text{ROI} = \frac{\text{Average Annual Profit}}{\text{Total Investment}} * 100$$

EX: Calculating the ROI for project1, the net profit is Rs.50,000, and the total investment is Rs.100,000.

**Solution:**

$$\text{ROI} = \frac{\text{Average Annual Profit}}{\text{Total Investment}} * 100$$

$$\text{Average Annual Profit} = \frac{\text{Net Profit}}{\text{Total number of years}}$$

$$= \frac{50,000}{5}$$

$$= \text{Rs. } 10,000$$

$$\text{Now ROI} = \frac{10,000}{100,000} * 100$$

$$= 10\%$$

2) What is the significance of a “Project Risk Matrix”? Give an example.(May/June 2012)

**The significance of a Project Risk Matrix is:**

- One approach is to construct a project risk matrix utilizing a check list of possible risks and classifying risks according to their relative importance and likelihood.
- Importance and Likelihood need to be separately assessed. It might be less concerned with something that although serious is very unlikely to occur than with something less serious that is almost certain.

**Ranking a Risk:**

A basic project risk matrix listing some of the business risks for a project, with their importance and likelihood classified as High(H), Medium(M), Low(L) or

exceedingly unlikely( \_ ). So that projects may be compared, the list of risks must be the same for each project assessed.

A fragment of basic project risk matrix below:

Risk	Importance	Likelihood
Software never completed or delivered	H	L
Project cancelled after design stage	H	-
Software delivered late	M	M
Development budget exceeded $\leq 20\%$	L	M
Development budget exceeded $\geq 20\%$	M	L
Maintenance costs higher than estimated	L	L
Response time targets not met	L	H

### 3) Give the significance of cost benefit analysis.(Nov/Dec 2012)

The Significance of cost-benefit analysis are:

- Takes a community-wide perspective
- Allows the consideration of a range of policy options
- Determines which policy maximizes net benefits to the community
- Allows benefits and costs to be compared over time.
- Can show the cost and benefits accruing to different groups within the community.

### 4) When Net Present Value is calculated for a project?(Nov/Dec 2012)

NPV is a central tool in discounted cash flow(DCF) analysis and is a standard method for using the time value of money to appraise long-term projects. Used for capital budgeting and widely used throughout economics, finance, and accounting, it measures the excess or shortfall of cash flows, in present values terms, once financing charges are met.

NPV can be described as the “difference amount” between the sums of discounted: cash inflows and cash outflows. It compares the present value of money today to the present value of money in future, taking inflation and returns into account.

### 5) Differentiate between Strategic Assessment and Technical Assessment.(May/June 2013)

**Strategic Assessment:**

- Used to assess whether a Project fits in the long-term goal of the organization

- Usually carried out by senior management
- Needs a strategic plan that clearly defines the objectives of the organization
- Evaluates individual projects against the strategic plan or the overall business objectives

**Technical Assessment:**

- Functionality against hardware and software
- The strategic IS plan of the organization
- Any constraints imposed by the IS plan

**6) What is the use of decision tree in Risk Evaluation?(May/June 2013)**

A decision tree is a diagramming analysis technique used to help select the best course of action in situations in which future outcomes are uncertain.

Decision tree of analyzing risks helps us to

- ✓ Extend the existing system
- ✓ Replace the existing system

**7) What are the steps in cost-benefit analysis?(Nov/Dec 2013)**

**Step-1: Identifying and estimating** all of the costs and benefits of carrying out the project

- ✓ Development cost of system
- ✓ Operating cost of system
- ✓ Benefits obtained by system

EX: Sales order processing system which gives benefit due to use of new system.

**Step-2: Expressing** these costs and benefits in common units

- ✓ Calculates Net benefit
- ✓ Net Benefit = Total Benefit - Total Cost

**8) What is the concept of strategic programmes?(Nov/Dec 2013)**

Several projects together can implement a strategy. For example the merging of two organizations could involve the creation of unified payroll and accounting applications.

**9) What are the assessment needed in technical part for Software Project Management?**

**(Apr/May 2014)**

- Functionality against hardware and software
- The strategic IS plan of the organization
- any constraints imposed by the IS plan

**10) Define technical assessment. .(Nov/Dec2011)**

Technical assessment of a proposed system consists of evaluating the required functionality against the hardware and software available. Organizational policy aimed at the provision of a uniform and consistent hardware/software infrastructure is likely to place limitations on the nature of technical solutions that might consider.

**11) What are the cost-benefit evaluation techniques?**

- **Net profit-** *net profit* and discounted cash flow automatically
- **Payback period-** projects will provide a true return-on-investment while meeting an acceptable Return of investment- successfully complete projects and receive a *return on investment*.
- **Net present value-** Successful Projects Fortunately for *project managers*
- **Internal rate of return-** delegation of general management authority to the Project Leader

**12) Give the formula of Net Present Value**

$$NPV = I_0 + \sum \frac{F_t}{(1 + r + P_t)^t}$$

$F_t$  = net cash flow for period t  
 $r$  = required rate of return  
 $I_0$  = initial cash investment  
 $P_t$  = inflation rate during period t

**13) Give the formula of payback period and ROI**

$$\text{Payback Period} = \frac{\text{Investment}}{\text{Annual Cash Savings}}$$

**Significance**

Creating a project charter to formally initiate projects

$$ROI = \frac{\text{Average Annual Profit}}{\text{Total Investment}} * 100$$

**14) What is IRR? How is it calculated?**

The Internal Rate of Return (IRR) attempts to provide a profitability measure as a percentage return that is directly comparable with interest rates.

The IRR is calculated as percentage discount rate that would produce NPV of zero.

**PART – B (16 MARKS)**

- 1) Describe “Cash Flow Forecasting” and its application in projects.
- 2) Explain the “Internal Rate of Return” method for measuring the profitability of a project. Also mention its advantage over the NPV method.
- 3) Explain the various issues to be addressed in evaluating the risks before deciding to take up a project.
- 4) Discuss the cash flow forecasting with different cost-benefit evaluation techniques.
- 5) Explain why discounted cash flow techniques provide better criteria for project selection than net profit or return on investment. Justify your answer with an example.
- 6) Discuss the various activities of Project Evaluation. Give example.
- 7) How do you assess the strategic infrastructure management in Project Evaluation? Explain with a suitable illustration.