



1. The objective of project audit is

- (A) Identification of factors that might affect quality or cause cost or time overruns.
- (B) Identification of specific training needs associated with project tasks
- (C) Both of these
- (D) None of these



Answer:

- (C) Both of these



2. Which of the following is the optimum time for project completion?

(A) When direct cost is lowest

(B) When indirect cost is lowest

(C) When direct cost plus indirect cost is lowest

(D) When indirect cost is zero



Answer:

(C) When direct cost plus indirect cost is lowest



3. Which of the following is referred to as Crash time of a project?

- (A) Normal allowable time for a project activity
- (B) Time beyond which cost reduction is not possible
- (C) Time beyond which cost reduction is possible
- (D) No float time



Answer:

- (B) Time beyond which cost reduction is not possible

Repeated: 2009

 Report Marks: 1



4. Status report of a project is prepared during

- (A) Defining stage
- (B) Planning state
- (C) Execution stage
- (D) Delivery stage



Answer:

- (C) Execution stage

Repeated: 2012



Report

Marks: 1



5. Intangible assets of a company consists of

(A) Patents

(B) Copyrights

(C) Trade secrets

(D) All of these



Answer:

(D) All of these



6. The first step In the process of Project Audit is

(A) Initiation and stuffing

(B) Planning

(C) Data collection

(D) None of these



Answer:

(C) Data collection

Repeated: 2015

 Report Marks: 1



7. The first stage of Project Development Cycle is:

(A) Operation

(B) Investment

(C) Pre Investment

(D) Audit



Answer:

(C) Pre Investment

Repeated: 2017

 Report Marks: 1



8. Which one of the following is not a project management software?

(A) PRIMAVERA

(B) MSPROJECT

(C) PRISM

(D) LOTUS



Answer:

(D) LOTUS

Repeated: 2018

 Report Marks: 1



9. "Resource levelling" is synonymous with

(A) Limited resource allocation.

(B) Resource under-utilization.

(C) Resource smoothing.

(D) Resource hiring.



Answer:

(C) Resource smoothing

Repeated: 2008,2012

Report

Marks: 5



1. Write a short note on Project Life Cycle costing.



Answer:

Life cycle costing is based on the principle that successful project management requires the ability to analyse the total project rather than individual parts, as the tendency always is to buy the least expensive equipment. In the case of scientific development the overall cost should be estimated to include initial development, production operation and maintenance as against the conventional acquisition cost only. In a large number of situations, the maintenance and spare parts cost may be more than initial procurement cost. Hence, it may be economical to spend more money in development and production than in later stages as the purchase price should be made as part of systems engineering processes before deciding on project facilities or investment decisions.

It is well known that the human beings go through the stages of childhood development, youth, old age and decay. Similarly, any product goes through the phases of development, market introduction, growth due to promotional efforts, maturity, deterioration due to new technological developments, and eventual discard. In the case of projects, they go through the cycles of conception, definition, production, operation, obsolescence and disinvestments, which are same as project formulation, build up, production, phase out and final audit. Thus, project management can be defined by the systems life-cycle phases, with each phase representing a separate task.

The strategic importance of tying available financial resources for many years from alternatives and determining the capacity, operating characteristics and product mix in the short- and long-term can be analysed by life-cycle cost. The problem areas include investments in inferior technological machines; ageing facilities not being replaced over investment, under investments, lower capacity utilisation etc.



2. What are the important phases of a project life cycle? Discuss each phase briefly with key issues involved in it.



Answer:

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3. Write a short note on Project Life Cycle.



4. Enumerate the importance of Work Break-down Structure (WBS) and Organization Break-down Structure (OBS) in Project Management.



Answer:

Work Break Down Structure is a process by which the whole project is divided (i.e. broken down) into various sub-projects, the sub-projects into various tasks, the tasks into various sub-tasks and finally the sub-tasks into work-packages. In the process of building up WBS, the project manager, all connected functional managers and all the connected staff work together and analyse all aspects of the project so that their collective wisdom will prevail. Thus, we have the following stages or levels:

1. Project
2. Sub-project
3. Task
4. Sub-task
5. Work-package

Types of Work Break down Structure:

Work Break down Structure can be of two types, viz.,

- Product oriented WBS
- Functionally oriented WBS

Organization Break down Structure (OBS)

The project organization (i.e. the personnel involved in project implementation and control) can be broken up in to several groups, sub-groups, individuals etc. The breaking down of project organization is done in such a way that an individual or a group of individuals can be identified with the work packages arrived at as per WBS.

The ultimate objective of OBS is to integrate the OBS with the WBS by identifying the organizational groups, sub-groups, individuals who have functional responsibility for each work package of the WBS.

Repeated:

2010,2013,2015



Report

Marks: 5



5. State the role of Project Auditor.



Answer:

The project auditor has to investigate the underlying records, ascertain the tangible results of work done, look at the process and calibre of project management, examine the project methodology and techniques and get a clear picture of the project organisation and controls. He should then be able to:

1. Comment on current status;
2. Forecast the future status;
3. Highlight critical management issues;
4. Point out exposure to risk and potential losses.



6. What do you mean by project appraisal?
Discuss its significance to a project manager.



Answer:

Project appraisal refers to project evaluation and capital budgeting. A project should be appraised from functional studies and then capital budgeting. Functional studies include the followings:

- Technical feasibility
- Economic Viability
- Commercial feasibility
- Financial feasibility
- Detailed Project Report(DPR)

Capital budgeting process includes the followings:

Capital budgeting process includes the followings:

- Identification of potential investment opportunities
- Assembling of proposed investment
- Decision making
- Preparation of Capital budget and appropriations
- Implementation
- Performance review

A Project Manager has to deal with six(6) resources namely Men, Materials, machines , money, minutes(Time), methods. Out of these six resources Times and Methods are fairly independent of one another and could not be purchased by money. Project appraisal enable the Project Manager to prepare plan for execution of the project and establish mile stone for optimum utilization of the above six resources and completing the project without time overrun and cost overrun.



7. Discuss briefly any three cost reduction methods In project management.



Answer:

Cost Reduction Methods

- Material cost reduction could be possible by value analysis and value engineering in designing and manufacturing of equipment.
- Variety reduction and standardization in procurement of components and consumables would reduce material cost of the project
- A sizeable cost of equipment could be reduced by innovative make or buy decision.



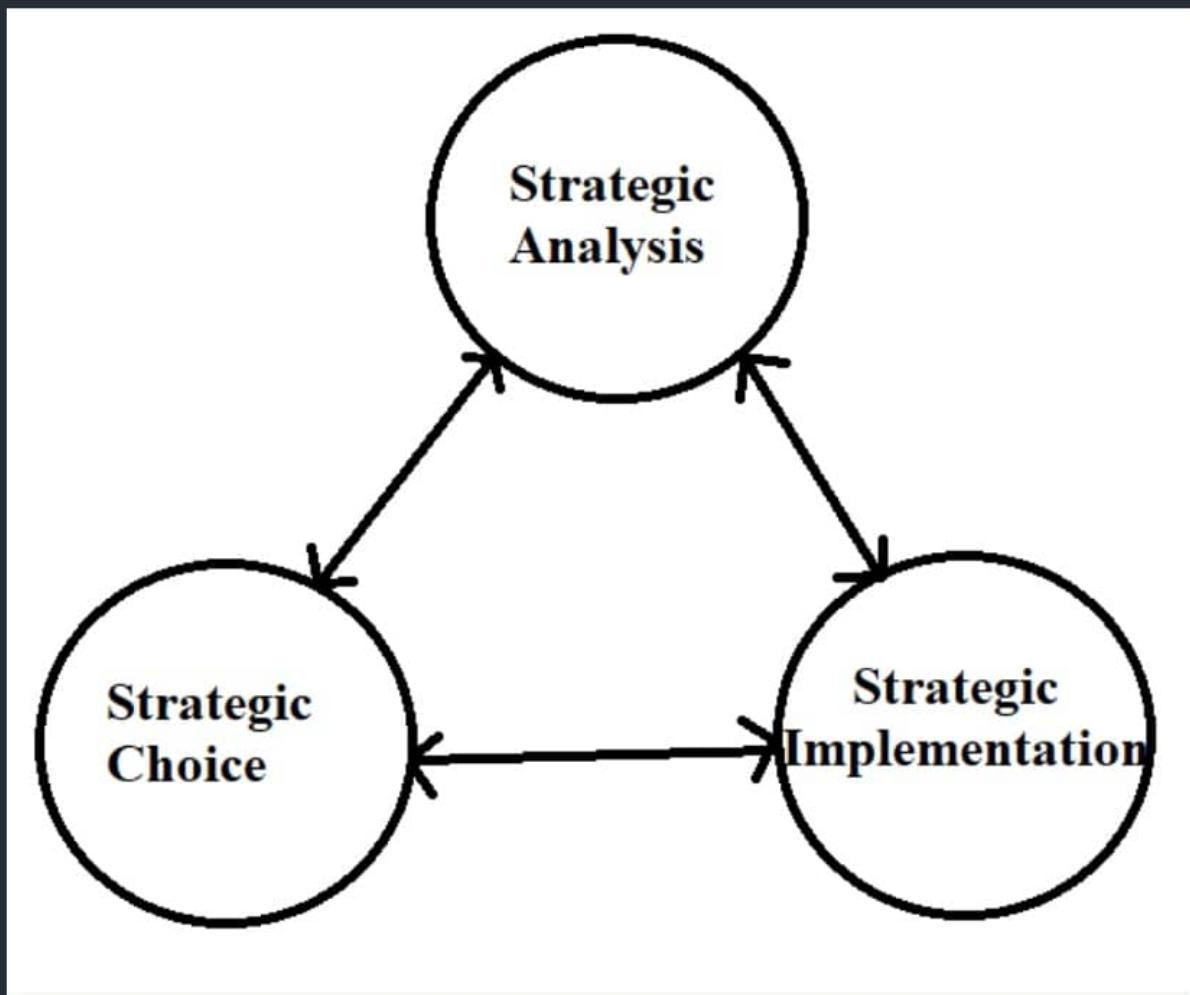
8. Describe the major components of the strategic management process.



Answer:

Components of Strategic Management Process are at least five:

- One is the selection of mission and goals which is a very important first process. An organization cannot work without mission and goals.
- Second is the analysis of the organization external competitive environment in order to point out the opportunities and threats which can knock off an organization.
- Thirdly, it is very crucial to analyse organization internal operational process. For an organizational to be success it is important to know the weaknesses and strengths in it.
- Four select the ways or strategies to build on an organization strong parts to fight off the weaknesses.
- The last component is implementation selected ways and strategies to reach organizational mission and goals.



Components of Strategic Management

Components of Strategic Management Process in its broadest sense is all about taking strategic decisions, analyzing the strength and understanding the important external factors that may influence the position of an organization and also finding out the factors that bring about the performance of an organization through Components Of Strategic Management Process.



9. What are the costs included in project life cycle costing?



Answer:

The following costs are included in Project Life cycle Cost:

- Specification cost
- Design and development Cost
- Capital cost of equipment
- Installation and Commissioning costs
- Cost of Operation
- Maintenance and spares costs
- Salvage/ disposal recovery cost .
- Opportunity cost due to lost production or lower capacity utilization.

Repeated: 2017

Report Marks: 5



10. Define Gantt chart. Explain the role of Gantt chart in Project Management.

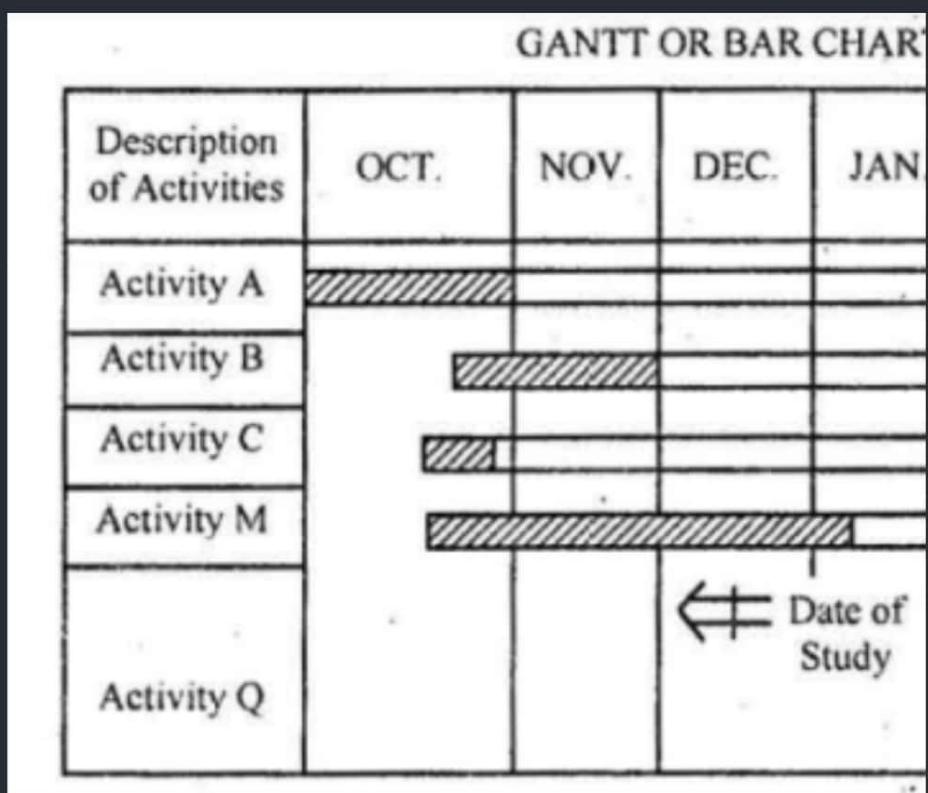


Answer:

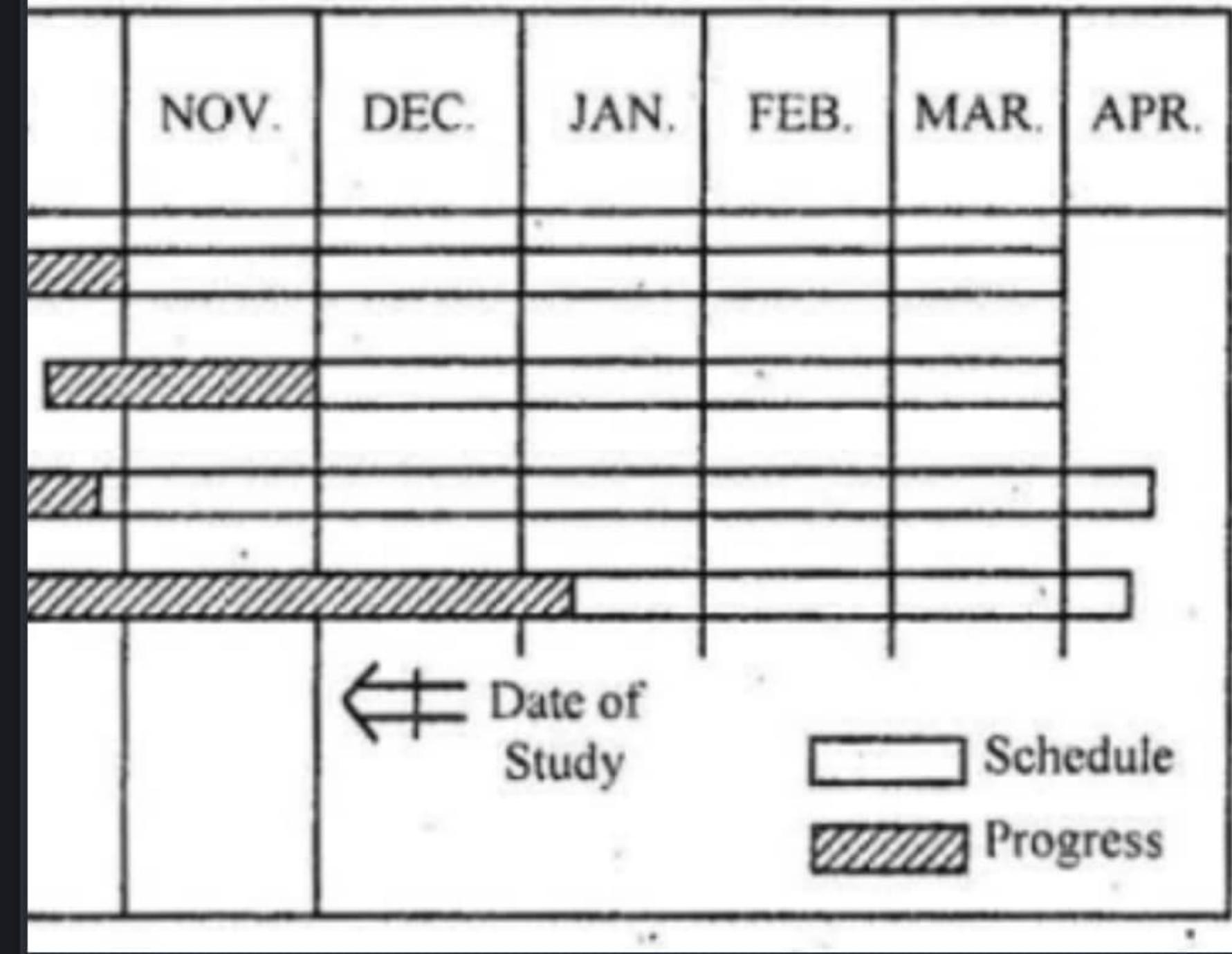
1st part:

- A versatile charting technique was developed by Henry. Gantt, which is based on the principle of facts to time.
- It gives the relationship among different activities in a production process.
- Gantt chart depicts on a plan of work in terms of time and serves as an effective communication devices.

Gantt chart or Bar Chart



GANTT OR BAR CHART



- The Gantt technique employs a horizontal axis of time measured in days or hours or weeks. The vertical axis may be used to list individual shop orders and departments through which they will be processed. This chart shows both the planned and actual progress of job through several activities or departments as shown in the above figure. The visual array of information displayed by this Gantt chart permits the user to absorb the information quickly. The principle of Gantt chart represent that an amount of work actually done in that time scheduled.

2nd part:

Role of Gantt chart

- The Gantt chart helps in achieving the defined objective to minimize the make span time or also known as scheduled time or maximum flow time.
- Gantt charts are most used in presenting statistical data graphically.
- They are particularly useful for graphical presentation of categorical data.
- Gantt chart depicts on a plan of work in terms of time and serves as an effective communication device.

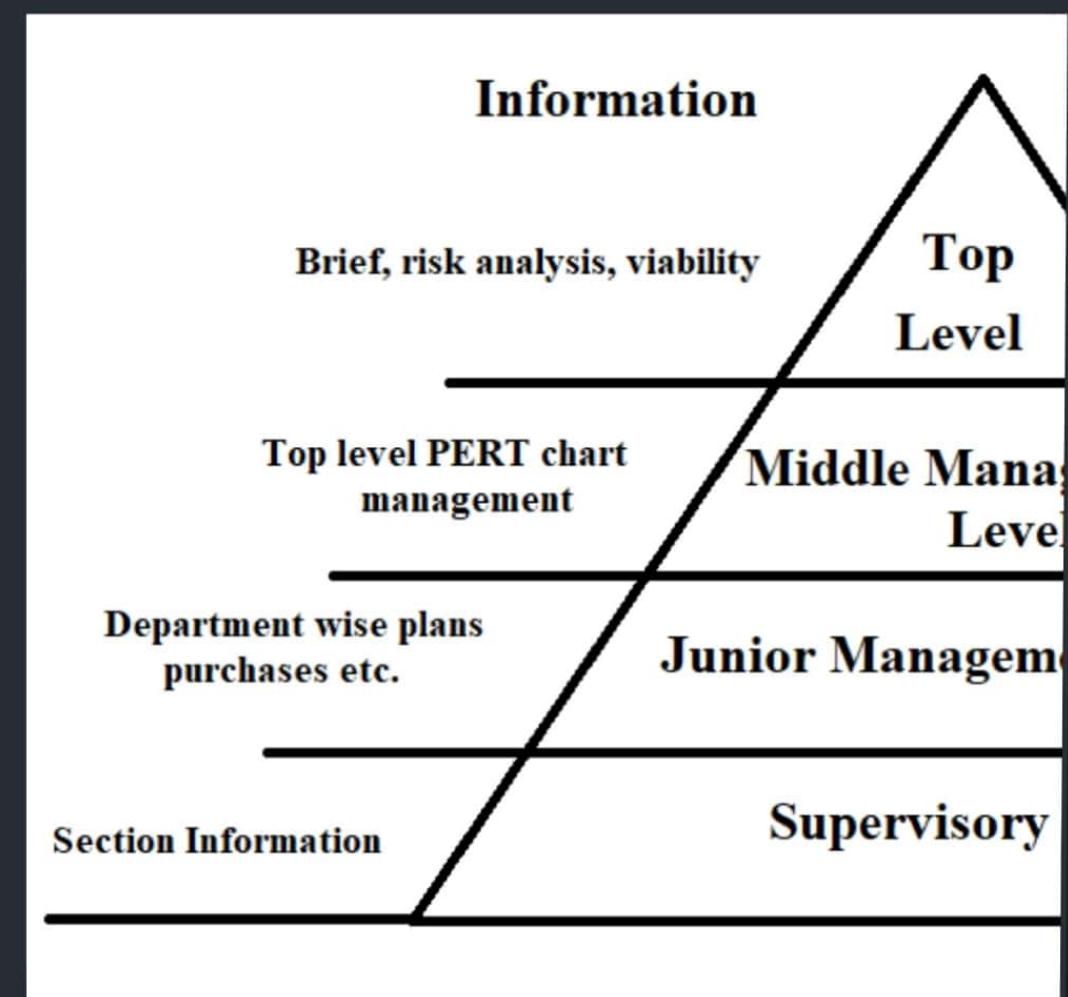
1. Explain how MIS is related with Project Management?



Answer:

The management information system must be evolved to generate the required reports so that cost, time and work can be monitored. Different levels of management require different reports at the varying frequency. The following Figure gives a pictorial idea about report requirements at various levels.

There are many reports and information sought on a regular basis as well as on need basis. A list of three types of reports is given below,



Reports

**Top
level**

**Executive summary, milestone chart,
Accomplishment cost plans**

**Management
Level**

PERT output, tenders, contracts

Management Level

DPR time ans cost over-runs

Advisory Level

Detailed PERT/CPM charts



2(a). Time and Cost overrun are the two important aspects of Project Management. Discuss.



Answer:

Reports on actual cost compared to budget and actual time compared to the schedule are relatively straightforward. The interpretation of the time reports is relatively easy. The interpretation of the cost report is somewhat different, for the possibility exists that if actual costs are less than the budget, quality may have suffered. For this reason, unless there is some independent way of estimating the costs requirements, the interpretation of cost performance is by mere comparison of actual with budget costs and would often be misleading.

In most cases the cost reports compare actual costs to date with budgeted costs for the work accomplished to date. The reports may also show the current estimate of costs for the entire project compared with the budgeted cost for the entire project. The current estimate is obtained by taking the actual costs to-date and adding an estimate of the costs required to complete the project.



2 (b). What are Project Intangibles?

Enumerate their effect on Project Management.



Answer:

The following project intangibles deserve special note for appropriate project control initiatives:

1. Preliminary and pre-operative expenses

The tendency to underestimate this component of project cost is common. This will move in tandem with the delay in implementation of the project and can accumulate to alarming proportions, as the costs involved are fixed or period costs like salaries, rent, etc., which creep with the progress of time, irrespective of whether physical progress in work is achieved or not. Pre-operative expenses can be as much as 5 to 10 percent of project cost in cases where the project is completed in 2 or 3 years, and further delays witness sharp increases in relation to the total project cost.

2. Interest during construction

The project may start with a debt/equity ratio of 1:1 and then degenerate due to poor anticipation of the pattern of drawl of funds and the related cost implications. In the initial phases of project construction, there is likely to be heavy utilisation of debt, and issue of share capital is normally resorted to only at the time the project is ready to go on stream. Loans are expensive as interest accumulates with the passage of time even when there is no production or revenue. Sometimes, to make up the cash requirements until share issue, bridging loans are availed of, and these are particularly expensive, with higher interest rates. Assuming the project gets implemented on schedule, the interest component of project cost may go beyond 15 percent, and the incidence will get compounded if there is further delay in the completion of the project. In some of the Indian projects that have overshot the time and cost estimates many times over, the interest cost or financing charges almost equal the original estimate of the total project cost. Project management should watch out for the creeping effect of interest charges.

3. Share issue and capital raising expenses

Mortgage expenses, legal fees, stamp duty, etc., for raising loans can be as much as 1 to 2 percent of borrowed amounts Issuing share capital also is quite an expensive proposition, particularly where the amount of issue is modest. Underwriting, stamp-duty, advertising, pub li.city etc., may collectively accountants for 5 to 10 percent of total capital raised, depending upon the amount of issue involved.

4. Working capital margin

With the focus on long-term finance for the project, the working capital needs for the operating phase are not considered in detail, and broad assumptions have the effect of underestimating the working capital requirements.



3. What is Project Audit? Discuss the scope and objectives of Project Audit.



Answer:

W.S. TURNER, in his book on PROJECT AUDITING METHODOLOGY, defines project audit as a formal and systematic examination of the performance of an ongoing project as compared to its requirements. It involves measurement against predefined and relevant standards. It also constitutes an independent and authentic source of information and critique on the project and might often call for the auditor's personal judgement. Without impinging on enterprise management's prerogative and responsibility, it supports management in-diagnosis and decision-making. The enterprise management should perceive project audit as a normal component of its quality management initiatives.

The objectives of project auditing can be viewed in terms of the help it renders to the enterprise management in:

- Creating awareness among the project staff of the types and magnitude of the problems that are likely to be encountered in completing the project and producing quality products, in planned volume and at competitive costs.
- Providing a clear picture, from time to time, of the actual status of the project.
- Prompt identification of the factors that might cause product quality problems or lead to time and/or cost overruns.
- Timely spotting of a variety of generic problems that are associated with execution of projects.
- Enabling the creation of a good information base for a proper estimation and costing of the project.
- Assisting in the establishment of appropriate standards and systems and recommending suitable work techniques;
- Identifying the specific training needs with reference to the project tasks; and
- Formalising the experience and expertise in project management in order to be able to provide consultancy services to other enterprises.



4. Enumerate the advantages of Computer aided Project Management. Show different components of a Web based Enterprise-wide Project Management and explain briefly its functioning system.



Answer:

CAMP is required because of the following

- i) When the size of Project increases, it becomes difficult if not impossible to plan, schedule budget and control Project activities using manual techniques. Therefore for large Project use of computers is a matter of necessity
- ii) In Project Company handling multiple projects and different Project sites, appropriate resource allocation and resources levelling as a whole requires the use of computer.

Advantages

- a) CPMS (computerises Project management system) can analyse problem with very high speed compared to manual analysis. Because of speed, the number of permutations and combinations could be handled easily.

- b) CMPS is essential for large projects of complex nature, which generates large volume and data. Such voluminous data cannot be handled manually.
- c) Accuracy of result in CMPS can be relied upon over manual process.
- d) CPMS reduces requirement of precious manpower. It reduces clerical manpower.
- e) A Project manager, who is responsible for all activities, can directly deal with all datas without involving other persons.

Essential requirements of Project Management Software

- (i) It should have the capacity to integrate the data of all Projects operating at different sites.
- (ii) It should have the filtering capacity to extract a set tasks and milestone from a scheme for the purpose of analysis and reporting.
- (iii) It should support a range of file formats for importing and exporting of data.
- (iv) It should support a variety of Graphs, and Report in different format.

Software Packages for CPMS

The first project management software tools were developed in late 1960s for the mainframe computers. During 1970s and 1980s Project Management software packages suitable for microcomputers were developed. By 1990 there were over 100 software packages for use. Some of the popular software packages commonly used are as below:

Microsoft Project

Harvard Total Project Manager

Project planner

PRISM → Developed by TCS

YOGNA

INSTA PLAN → Developed by WIPRO

QUICK NET

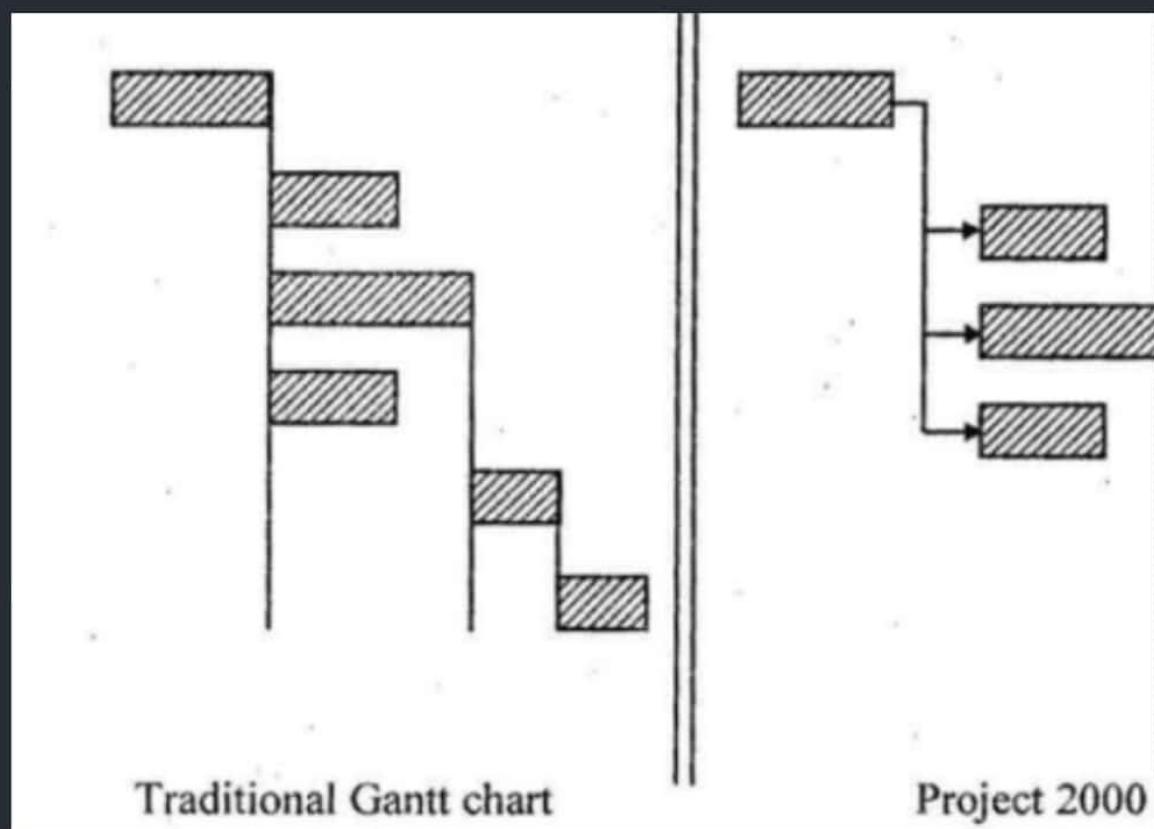
PC- PROZAKS

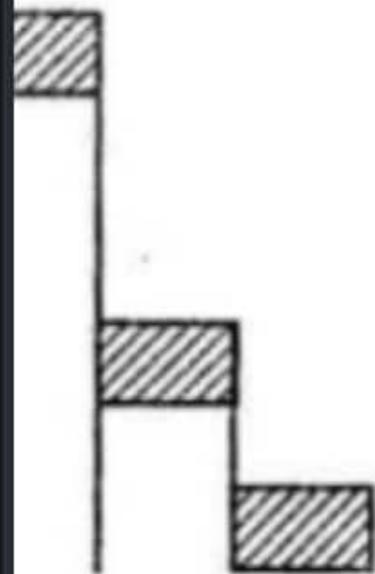
Proman

Project scheduler 8

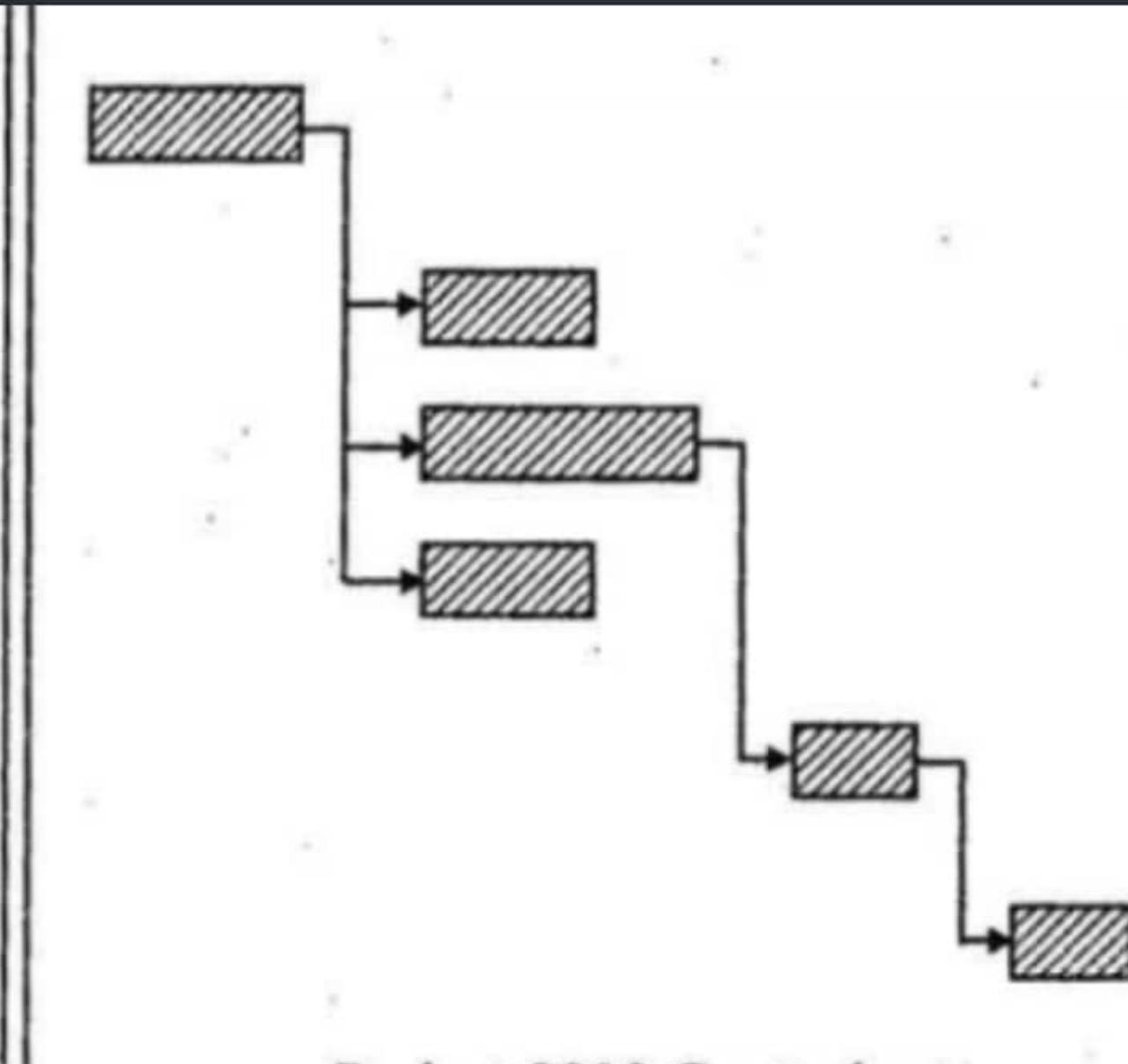
Microsoft Project 2000 is most popular. The various features and facilities available in Project 2000 are as below:

- Gantt chart





Gantt chart



Project 2000 Gantt chart

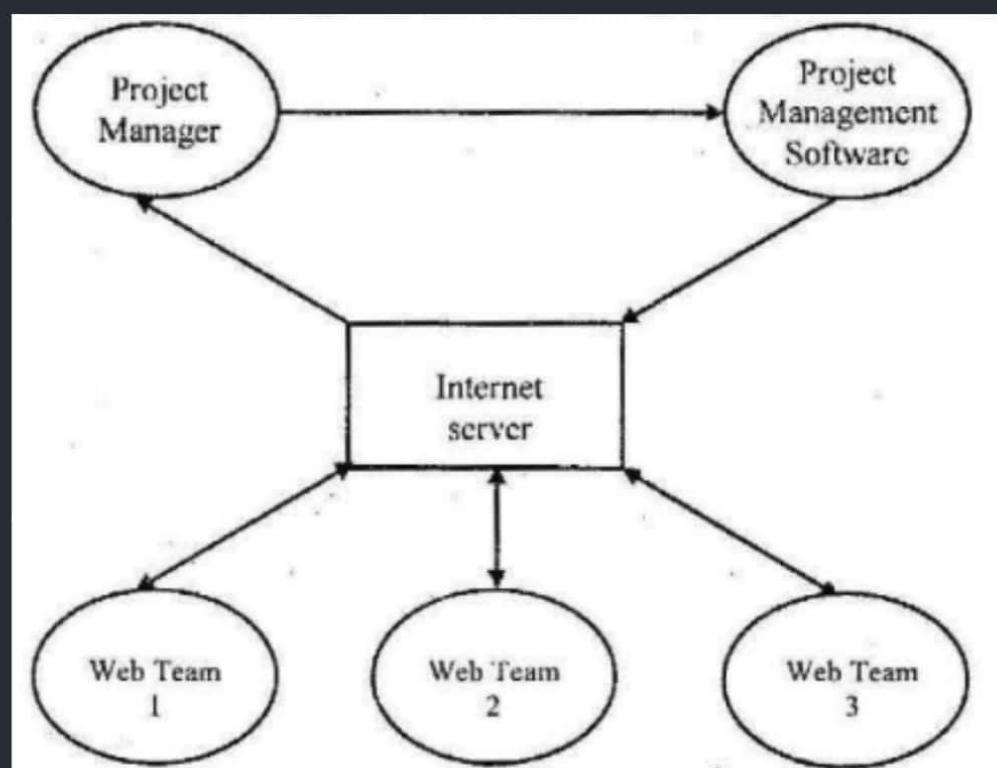
In Microsoft the link lines in Gantt chart shows series and parallel relation between activities.

Enterprise-Wide Project Management

It is a web based project management system in which multiple Projects are monitored from one central location. It allows collaborative planning among Project Managers and Project Executives. Microsoft central and Project Communicator are two popular web based project management software tools.

Using Spread Sheets for Financial Projects

Spread sheet package like Lotus 1-2-3 and MS-Excel help in developing financial projections like profitability, cash flow, Break-even estimates etc. The advantage of spread sheet is that it can help to perform sensitivity analysis of financial projections.





5. What do you mean by "Project Audit"? How does a project auditor make the Audit Plan? Enumerate the importance of ATR (Action Taken Report) following a round of Project Audit.



Answer:

1st Part:

- Project Audit refers to a thorough examination of the management of a project, its methodologies and procedures, its records, its properties, its budgets and expenditures and its degree of completion.
- Project audit may deal with the project as a whole, or only with a part of the project.

2nd Part:

- Project Audit planning refers to establishing the overall audit strategy to conduct an effective audit in an efficient and timely manner.
- The type of the project being audited and the uses for which the audit is intended dictate some specific matter to be included in the audit plan.
- Besides, project audit planning involves certain activities like:

- ~ Setting the scope, timing and extent of audit procedures to be applied.
- ~ Determining the resources to be deployed for specific audit areas
- ~ Determining the amount of resources to be allocated to specific audit areas
- ~ Deciding how much resources are managed, directed and supervised.

3rd Part:

Importance of ATR (Action Taken Report) following a round of project audit

- An auditor, while carrying out his examination, has to investigate the underlying records, ascertain the tangible results of the work done, look at the process and calibre of the project management, examine the project methodology and techniques and get a clear picture of the project organisation and controls.
- The action taken report. of an auditor focuses on (i) the current status of the project, (ii) forecasts the future status, (iii) highlight critical uses and (iv) point out exposure to risk and potential losses, etc.



6. What are the different types of risk associated with completion of a project? Explain them.



Answer:

The different types of risks associated with the completion of a project are as follows:

1. Project Risk
2. Business Risk
3. Production System Risk
4. Benefits Realisation Risk
5. Personal Risk

1. Project Risk: Project risks are factors that could cause the project to fail. They are the most significant of the risk types and has a number of sub types that need to be considered, these are

- System or product complexity
- Client or target environment
- Team environment
- Business project risk

2. Business Risk: From the financial perspective the business can lose money on the project if the benefits aren't delivered. Strategically if the project fails it can mean the business misses an opportunity to be first to market with a new service offering. If the site fails to compile with legal requirements, the business could be exposed to legal action. If the site isn't secure enough it can expose the business to financial loss. If the site fails to perform and keeps going offline, the image and reputation of the business can be affected.

3. Production System Risk: The higher the risk of the production system, the more likely the system will fail and take longer (or more effort hours) to fix. For some web applications, outages literally cost the business money so if attention isn't paid, the client will end up paying one way or another.

4. Benefits Realisation Risk: A business undertakes a project to realize benefits in one way or another, whether it be increase in sales or improving efficiency. It's all too easy to get caught up in the details of the project and forget the bigger picture, especially when you're struggling to get content and deliver the project on time.

5. Personal Risk: People can get hurt, financially by losing a job or their health can suffer due to stress not to mention potential legal exposure. The pressures of work can have an impact on physical and mental health not to mention professional and personal relationships. Some people under too much pressure may literally break down.



7. What are the types of common risks that organizations face? Explain any two.



Answer:

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8(a). Write short notes on the following:

MIS & project management



Answer:

MIS & project management: Key areas of monitoring are the same as the key elements of projects. They are (i) time, (ii) cost, (iii) work quantity and (iv) work quality; There should be a constant monitoring of these elements during the project execution stage. These three are interrelated but there is no way one can put all these three together and develop a single parameter for their-monitoring.

Control Reports: The management information system must be evolved to generate the required reports so that cost, time and work can be monitored. Different levels of management require different reports at the varying frequency. The following Figure gives a pictorial idea about report requirements at various levels.

There are many reports and information sought on a regular basis as well as on need basis. A list of three types of reports is given below

information

Reports

ysis, viability

Executive summary, milestones
Accomplishment cost plans

chart
nt

Middle Management
Level

PERT output, tend

Junior Management Level

DPR time a

Supervisory Level

Detail

Management Level and Required Information

1. Cost Reports

- a) Activity cost report
- b) Cost flow report
- c) Variance report

2. Time and Effort Reports

- a) Time activity report
- b) Time analysis report
- Programme schedule and work efforts are highly inter-related
- These reports provide PERT/CPM type information

3. Work Status Report

Status index report (this report attempts to combine all three cost, time and work into a single index)

Alternatively the types of reports can be listed in six parts as follows:

1. Financial Reports

- a) Monthly commitment and expenditure
- b) Monthly cash flow forecast
- c) Monthly bank guarantee position
- d) Monthly outstanding payments to consultants, supplies and contractors
- e) Weekly retirement of documents through bank

2. Procurement-Monthly Reports

- a) Orders placement details
- b) Pending orders schedule
- c) Bids processing status

d) Delivery forecast

3. Inspection Expediting Reports

- a) Weekly vendor-wise details status report
- b) Constraints report-technical and commercial
- c) Exception report
- d) Sub-ordering report

4. Engineering Report

- a) Documents release and balance status report (monthly)
- b) Bid's technical scrutiny and recommendation report
- c) Construction drawings - release and status report
- d) Operation manual
- e) Model

5. Constructions and Erection Report

- a) Weekly job-wise, contractor-wise report
- b) Monthly detailed progress review
- c) Exception report

6. Project management

- a) Monthly overall review covering above aspects
- b) Exceptions and recommendations

The frequency and the details of project control reports are very need specific and therefore will vary from firm to firm and from project to project.



8 (b). Write short notes on the following:

Different methods of Project Appraisal

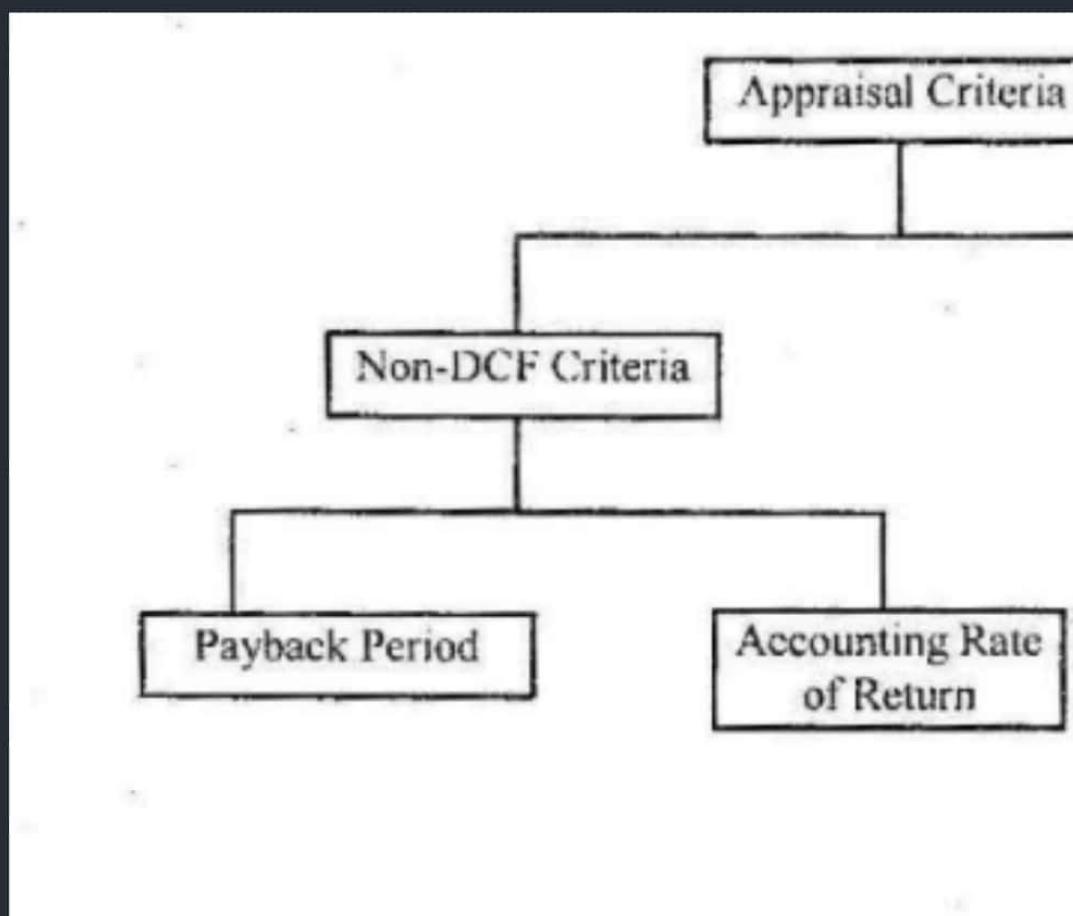


Answer:

Different methods of Project Appraisal:

Project Appraisal Criteria

The investment appraisal criteria, is classified into two broad categories- non-discounting criteria and discounting criteria.



Criteria

g Rate
urn

DCF Criteria

Net Present Value

Benefit Cost Ratio

Internal Rate of
Return

Payback Period Method

This is one of the widely recognized and simple methods of evaluating investment proposals.

Payback period is defined, as the length of the time required to recover the original investment on the project, through cash flow earned. The cash inflow includes operating profit, less income tax payable, plus depreciation.

Average Rate of Return (ARR) Method (or Accounting Rate of Return Method)

The average rate of return is also called the accounting rate of return.

$$\text{Average rate of return} = \frac{\text{(Profit after tax)}}{\text{(Book value of investment)}}$$

Profit after tax is the average annual post-tax benefit over the life of the project. Unlike payback period method, under ARR method, the entire life of the project is taken into account.

Net Present Value (NPV)

This method is one of the discounted cash flow techniques and it recognizes the time value of money.

(Net present value of (NPV) of cash flow) = (Present value of all future Cash inflows over the life of the project) - (Present value of Cash out flow)

$$ge rate of return = \frac{(Profit\ after\ tax)}{(Book\ value\ of\ investment)}$$

The present value of future cash inflows is arrived at by discounting the future cash inflows at an interest rate equal to the cost of capital.

Symbolically it can be expressed as

$$NPV = [CF_1/(1+r)^1 + CF_2/(1+r)^2 + \dots + CF_n] - CF_0$$

where, $CF_1, CF_2\dots$ are future cash inflows occurring at the end of the first year, second year etc; n = life of the project in years, r = discount rate (cost capital); and CF_0 = Present cash out flow.

If, $NPV = 0$, it indicates that the present cash outflow and the present value of future cash inflows are equal.

If, $NPV < 0$, it indicates that the present value of future cash inflows is less than the present cash outflow.

If $NPV > 0$, it indicates that the present value of future cash inflows is more than the present cash-outflow.

Internal rate of Return (IRR) Method

$$1 + r)^2 + CF_3/(1 + r)^3 + \dots + CF_n/(I + r)^n] -$$

Internal rate of Return (IRR) Method

The internal rate of return of a project is the discount rate that makes the net present value equal to zero. In other words, the internal rate of return is that rate of discount, which would equate the present value of cash out flows (investments on the project), to the present value of cash inflows (benefits over the life of the project)

In the calculation of net present value of a project, the discount rate (cost of capital) is assumed and the net present value is calculated by discounting future cash inflows at the assumed discount rate. In the calculation of internal rate of return from a project, the net' present value is set equal to zero and the corresponding discount rate is determined, the discount rate at which the net present value is zero is the internal rate of return.

$$0 = [CF_1/(I + r) + CF_2/(1 + r)^1 + CF_2/((1 + r)^2 + \dots + CF_n/(1 + r)^n)] - CF_0$$

$$= \sum_{t=0}^n CF_t/(1 + r)^t$$

where, CF t = cash flow at the end of year t, r = discount rate, and n = life of the project.

Comparison between NPV Method and IRR Method

$$_2/(1+r)^2 + CF_3/(1+r)^3 + \dots + CF_n/(1+r)^n] -$$

Comparison between NPV Method and IRR Method

Both NPV method and IRR Method appear to be the same structurally. *Prima facie*, it appears that if two projects were compared using NPV method and IRR method, both the methods would rank the projects in the same order. Though in most cases the decision based on either of the methods would be similar, there are certain instances wherein ranking by the two methods may differ from each other. Though it sounds not logical, the following illustration will clear the apprehensions.

Benefit- cost Ratio Method

This is only another version of Net Present Value method. Under this method, the benefits from the project (.e. cash inflows) are reduced to their present value at a specified rate of discount (cost of capital) and this figure is divided by the present value of the cost of the project (i.e. cash out flows).

$$\text{Benefit Cost Ratio} = \frac{\text{Present value of cash inflows}}{\text{Present value of cost of capital}}$$

or, Benefit - Cost Ratio (BCR)=PVB/I

Where, PVB = present value of benefits, and I= initial investment

$$\text{Net benefit - cost ratio (NBCR)} = (PVB - I) / I = BCR - 1$$

When BCR	or NBCR	Rule is
>1	>0	Accept
=1	=0	Indifferent
<1	<0	Reject



8 (c). Write short notes on the following:

Intellectual Property Rights (IPR)



Answer:

Intellectual Property Rights (IPR)

Intellectual property (IP) is a juridical concept which refers to creations of the mind for which exclusive rights are recognized. Under intellectual property law, owners are granted certain exclusive rights to a variety of intangible assets, such as musical, literary, and artistic works; discoveries and inventions; and words, phrases, symbols, and designs. Common types of intellectual property rights include copyright, trademarks, patents, industrial and in some jurisdictions trade secrets.

Although many of the legal principles governing intellectual property rights have evolved over centuries, it was not until the 19th century that the term intellectual property began to be used, and not until the late 20th century that it became commonplace in the majority of the world. The British Statute of Anne 1710 and the Statute of Monopolies 1623 are now seen as the origins of copyright and patent law respectively.

Repeated: 2018



Marks: 9



9(a). Discuss briefly the right purchase parameters in the Projects Procurement process.



Repeated: 2018



Marks: 6



9(b). What is project audit? Discuss its objectives.



Answer:

Answer Will be available soon!



Notify Me