

Smu solved assignments



**ASSIGN
BUSTER**

MB0044 - Production & Operations Management Assignment set - 1 1. What are the components of systems productivity? Explain how CAD and CIM help in improving productivity. Production management encompasses all activities which go into conversion of a state of inputs into outputs which are useful to meet human needs. It involves the identification of the prerequisite materials, knowledge of the processes, and installation of equipments necessary to convert or transform the materials to products. System productivity is generally expressed as the ratio of outputs to inputs.

Productivity can be calculated for a single operation, a functional unit, a department division or a plant. It is a measure of the efficiency of the system and looks at the economies achieved during the processes. Every process will have number of contributors-people machines, facilitating goods, ancillary equipments, technology, etc. Which help in achieving maximum productivity - each element attempting to enhance the contribution of other elements? Enhancement of productivity is achieved by either reducing the inputs for the same output or increasing the output by using the same input. Opportunities exist at all stages of the workflow.

The entire system of introduce measures for increasing productivity. However in actual manufacturing situations, the inefficiencies will have cascading effect in hampering productivity. Communication, effective review processes and innovative methods will ensure optimization of resources. Capital productivity: Capital deployed in plant, machinery, buildings and the distribution system as well as working capital are components of the cost of manufacture and need to be productive. Demand fluctuations, uncertainties

of production owing to breakdowns and inventories being crated drag the productivity down.

Therefore, strategies are needed to maximize the utilization of the funds allotted towards capital. Adapting to new technologies, outsourcing and balancing of the workstations to reduce the proportion of idle times on equipments are the focus of this section. Computers in design and manufacturing applications make it possible to remove much of the tedium and manual labor involved. For example, the many design specifications, blueprints, material lists, and other documents needed to build complex machines can require thousands of highly technical and accurate drawings and charts.

If the engineers decide structural components need to be changed, all of these plans and drawings must be changed. Prior to CAD/CAM, human designers and draftspersons had to change them manually, a time consuming and error-prone process. When a CAD system is used, the computer can automatically evaluate and change all corresponding documents instantly. In addition, by using interactive graphics workstations, designers, engineers, and architects can create models or drawings, increase or decrease sizes, rotate or change them at will, and see results instantly on screen.

CAD is particularly valuable in space programs, where many unknown design variables are involved. Previously, engineers depended upon trial-and-error testing and modification, a time consuming and possibly life-threatening process. However, when aided by computer simulation and testing, a great deal of time, money, and possibly lives can be saved. Besides its use in the

military, CAD is also used in civil aeronautics, automotive, and data processing industries. CAM, commonly utilized in conjunction with CAD, uses computers to communicate instructions to automated machinery.

CAM techniques are especially suited for manufacturing plants, where tasks are repetitive, tedious, or dangerous for human workers. Computer integrated manufacturing (CIM), a term popularized by Joseph Harrington in 1975, is also known as Autofacturing. CIM is a programmable manufacturing method designed to link CAD, CAM, industrial robotics, and machine manufacturing using unattended processing workstations. CIM offers uninterrupted operation from raw materials to finished product, with the added benefits of quality assurance and automated assembly. 2. What do you understand by 'industry best practice'?

Briefly explain different types of Benchmarking. Industry best practice: Each industry would have developed over years or decades. Materials would have changed, processes would have changed. As all products or services are meant to serve needs of the customers, they undergo continuous changes - both in shapes and features. Because of research that is conducted, materials and methods go on improve incessarily. The companies that were at the force innovate to stay in business as new entrants would be adopting the latest techniques that the pioneers had taken decades to establish.

So the practices adopted by various firms in any industry would end up adopting almost similar methods of getting an output required. Such practices would get refined to great extent giving rise what we call industry best practices. These tend to get stabilized or changed owing to the development of new equipments which are designed and manufacturers of

those with an eye on growing markets which demand higher quality and reduced prices. Competition benefits those who can use all these to their advantage. Industry best practices open up the field for benchmarking by companies which need to improve their performance.

Bench Marking: It is a method of measuring a company's processes, methods, procedures and in a way all functions in great detail. Benchmarking is used to understand how these got into the system and what circumstances brought them about. It is a learning process with a few to find out whether some of the reasons have changed and bring in new processes for improvement.. The metrics that could be used are - number of pieces per hour, cost per unit, number of breakdowns per week, customer alienation during a week, return on investment, number of returns from customers in a month, inventory turnover, and many others.

As can be seen the figures as found above determine the efficiency of the organisation. To keep focused, many organizations, especially the large ones, select a few processes for purposes of benchmarking. This helps in ensuring constant and deep attention to those aspects which are to be dealt with. The following are the types of benchmarking firms consider. Types of benchmarking:

- Process benchmarking - the initiating firm focuses its observation and investigation of business processes with a goal of identifying and observing the best practices from one or more benchmark firms.

Activity analysis will be required where the objective is to benchmark cost and efficiency; increasingly applied to back-office processes where outsourcing may be a consideration.

- Financial benchmarking - performing

a financial analysis and comparing the results in an effort to assess your overall competitiveness and productivity.

- Benchmarking from an investor perspective- extending the benchmarking universe to also compare to peer companies that can be considered alternative investment opportunities from the perspective of an investor.
- Performance benchmarking - allows the initiator firm to assess their competitive position by comparing products and services with those of target firms.
- Product benchmarking - the process of designing new products or upgrades to current ones. This process can sometimes involve reverse engineering which is taking apart competitors products to find strengths and weaknesses.
- Strategic benchmarking - involves observing how others compete. This type is usually not industry specific, meaning it is best to look at other industries.
- Functional benchmarking - a company will focus its benchmarking on a single function to improve the operation of that particular function. Complex functions such as Human Resources, Finance and Accounting and Information and Communication Technology are unlikely to be directly comparable in cost and efficiency terms and may need to be disaggregated into processes to make valid comparison.
- Best-in-class benchmarking - involves studying the leading competitor or the company that best carries out a specific function.
- Operational benchmarking - embraces everything from staffing and productivity to office flow and analysis of procedures performed.

3. List out the various automated systems for transfer of materials in the production plant. What do you understand by Line Balancing? Explain with an example. About the automated flow lines we can say it is a machine which is linked by a transfer system which moves the parts by using handling machines which are also automated, we have an automated flow line. Human intervention

ma is needed to verify that the operations are taking place according to standards.

When these can be achieved with the help of automation and the processes are conducted with self regulation, we will have automated flow lines established. In fixed automation or hard automation, where one component is manufactured using services operations and machines it is possible to achieve this condition. We assume that product life cycles are sufficiently stable to interest heavily on the automate flow lines to achieve reduces cost per unit. Product layouts are designed so that the assembly tasks are performed in the sequence they are designed at each station continuously.

The finished item came out at the end of the line. In automated assembly lines the moving pallets move the materials from station to station and moving arms pick up parts, place them at specified place and system them by perusing, riveting, & crewing or even welding. Sensors will keep track of their activities and move the assembles to the next stage. The machines are arranged in a sequence to perform operations according to the technical requirements. The tools are loaded, movements are effected, speeds controlled automatically without the need for worker's involvement.

The flexibility leads to better utilization of the equipments. It reduces the numbers of systems and aids in reduction of investment as well as a space needed to install them. One of the major concerns of modern manufacturing systems is to be able to respond to market demands which have uncertainties. Prototyping is a process by which a new product is developed in small number so as to determine the suitability of the materials, study the various methods of manufactured, type of machinery required and develop

techniques to overcome problems that may be encountered when full scale manufacture is undertaken.

Prototypes do meet the specification of the component that enters a product and performance can be measured on these. It helps in reforming the design and any shortcomings can be rectified at low cost. Flexibility has three dimensions in the manufacturing field. They are variety, volume and time. These demands will have to be satisfied. In that sense they become constraints which restrict the maximization of productivity. Every business will have to meet the market demands of its various products in variety volumes of different time.

Flexibility is also needed to be able to develop new products or make improvements in the products fast enough to cater to shifting market needs. Manufacturing systems have flexibility built into them to enable organization meet global demand. You have understood how the latest trends in manufacturing when implemented help firms to stay a head in business. 4. Explain the different types of Quality Control Tools with examples? How do Crosby's absolutes of quality differ from Deming's principles?

Quality Control (QC) is a system of routine technical activities, to measure and control the quality of the inventory as it is being developed. The QC system is designed to: Provide routine and consistent checks to ensure data integrity, correctness, and completeness; Identify and address errors and omissions; Document and archive inventory material and record all QC activities. The following seven are considered basic tools for achieving quality. Flow Chart Check sheet Histogram Pareto Analysis Scatter Diagram

Control Chart Cause and Effect Diagram Flow Chart It is a visual representation of process showing the various steps.

It helps in locating the points at which a problem exists or an improvement is possible. Detailed data can be collected, analyzed and methods for correction can be developed. A sample is shown below lists out the various steps or activities in a particular job. It classifies them as a procedure or a decision. Each decision point generates alternatives. Criteria and Consequences that go with decision are amenable to evaluation for purposes of assessing quality. The flow chart helps in pin-pointing the exact at which errors have crept in. A simple chart is shown below. Check Sheet

These are used to record the number of defects, types of defects, locations at which they are occurring, times at which they are occurring, workmen by whom they are occurring. It keeps a record of the frequencies of occurrence with reference to possible defect causing parameter. It helps to implement a corrective procedure at the point where the frequencies are more, so that the benefit of correct will be maximum. A sample sheet is shown below. Histogram Histograms are graphical representations of distribution of data. They are generally used to record huge volumes of data about a process.

They reveal whether the pattern of distribution - whether there is a single peak, or many peak and also the extent of variation around the peak value. This helps in identifying whether the problem is serious. When used in conjunction with comparable parameters, the visual patterns help us to identify the problem which should be attended to. Pareto Analysis This is a tool for classifying problem areas according to the degree of importance and attending to the most important. Pareto principle, also called 80-20 rule,

states that 80 percent of the problems that we encounter arise out of 20 percent of items.

If we find that, in a day, we have 184 assemblies have given problems and there are 11 possible causes, it is observed that 80 per cent of them i. e. 147 of them have been caused by just 2 or 3 of them. It will be easy to focus on these 2 or three and reduce the number of defects to a great extent. When the cause of these defects have been attended, we will observe that some other defect Scatter Diagram These are used when we have two variables and want to know the degree of relationship between them. We can determine if there is cause and effect relationship between and its extent over a range of values.

Sometimes, we can observe that there is no relationship, in which we can change one parameter being sure that it has no effect on the other parameter. Control Charts These are used to verify whether a process is under control. Variables when they remain within a range will render the product maintain the specifications. This is the quality of conformance. The range of permitted deviations is determined by design parameters. Samples are taken and the mean and range of the variable of each sample (subgroup) is recorded. The mean of the means of the samples gives the control lines. Assuming normal distribution, we expect 99.7 per cent of all values to lie within the UCL when we take 3 standard deviations - Upper Control Limit - and LCL - Lower Control Limit. The graphical representation of data helps in changing settings to bring back the process closer to the target. Cause and Effect Diagram This is a diagram in which all possible causes are classified on quality characteristics which lead to a defect. These are arranged in such

a way that different branches — the causes are — leading the stem in the direction of the discovery of the problem. When each of them is investigated thoroughly we will be able to pinpoint some factors which cause the problem.

We will also observe that a few of them will have cumulative effect or even a cascading effect. Deming Wheel Deming's approach is summarized in his 14 points. Constancy of purpose for continuous improvement Adopt the TQM philosophy for economic purposes Do not depend on inspection to deliver quality Do not award any business based on price alone Improve the system of production and service constantly Conduct meaningful training on the job Adopt modern methods of supervision and leadership Remove fear from the minds of everyone connected with the organisation Remove barriers between departments and people

Do not exhort, repeat slogans and put up posters. Do not set up numerical quotas and work standards Give pride of workmanship to the workmen Education and training to be given vigorously State and exhibit top management's commitment for quality and productivity Using the above principles, Deming gave a four step approach to ensure a purposeful journey of TQM. The slope is shown to indicate that if efforts are let up the program will roll back Plan - means that a problem is identified, processes are determined and relevant theories are checked out. Do - means that the plan is implemented on a trial basis.

All inputs are correctly measured and recorded. Check/Study/Analyze - means that the trials taken according to the plan are in accordance with the expected results. Act - When all the above steps are satisfactory regular production is started so that quality outcomes are assured Crosby's

Absolutes of Quality Like Deming, he also lays emphasis on top management commitment and responsibility for designing the system so that defects are not inevitable. He urged that there be no restriction on spending for achieving quality. In the long run, maintaining quality is more economical rather than compromising on its achievement.

His absolutes can be listed as under. Quality is conformance to requirements - not 'goodness'. Prevention, not appraisal, is the path to quality. Quality is measured as the price paid for non-conformance and as indexes. Quality originates in all factions - not quality department. There are no quality problems people, design, process create problems. Crosby also has given 14 points similar to those of Deming. His approach emphasizes on measurement of quality, increasing awareness, corrective action, error cause removal and continuously reinforcing the system, so that advantages derived are not lost over time.

He desires that the quality management regimen should improve the overall health of the organization and prescribed a vaccine. The ingredients are: Integrity - honesty and commitment to produce everything right first time, every time. Communication - Flow of information between departments, suppliers, customers - helps in identifying opportunities. Systems and operations - These should bring in a quality environment- so that nobody is comfortable with anything less than the best. 5. Define project cycle, project management, and scope of project. List the various project management knowledge areas?

What are the reasons for failure of a project? Project Cycle - A project cycle basically consists of the various activities of operations, resources and the

limitations imposed on them. Definition of " Project Management" It is the practice of controlling the use of resources, such as cost, time, manpower, hardware and software involved in a project, that start with a problem statement and end with delivery of a complete product. Project management involves understanding its scope and various processes in the project cycle.

Project Management Definition

As per PMBOK (Project Management — Body of Knowledge, defined by PMI - Project Management Institute) : " Project management is the application of knowledge, skills, tools and techniques to project activities to meet project requirements. As per DIN 69901 (German Organization for Standardization): " Project management is the complete set of tasks, techniques, tools applied during project execution" Scope - It refers to the various parameters that affect the project in its planning, formulation and executions, Like:- The range of one's perceptions, thoughts, or actions.

Breadth or opportunity to function. See Synonyms at room. The area covered by a given activity or subject. See Synonyms at range. The length or sweep of a mooring cable. Informal A viewing instrument such as a periscope, microscope, or telescope. Before knowing the reasons of failure we have to know about project. Project is a set of activities which are networked in order and aimed towards achieving goal of a project. Now, the reasons are project failure: Incidence of Project failure Projects being initiated of random at all levels Project objective not in line with business objective

Project management not observed Project manager with no prior experience in the related project Non- dedicated team Lack of complete support from clients Factors contributing to project success not emphasized: Project

objective in alignment with business objective Working within the framework of project management methodology Effective scoping planning, estimation, execution, controls and reviews, project bottlenecks Communication and managing expectations effectively with clients, team merits and stake holders Prior expectance of PM in a similar project

Overview of information and communication Technologies (ICT) project: Involve information and communication technologies such as the word wide web, e-mail, fiber-optics satellites. ii) Enable societies to produce, access, adapt and apply information in greater amount, more rapidly and at reduce casts. iii) Offer enormous opportunities for enhancing business and economic viability. iv) Common problems encountered during projects. v) No prioritization of project activity from an organizational position. vi) One or more of the stages in the project mishandled. vii) Less qualified non-dedicated manpower. iii) Absence of smooth flow of communication between the involved parties. These basic reasons lead a project to failures. In the project failures business management and project management is directly involved. From the management point of view it is basic things to care above topics to success of a project. Project is the core business of a company. 6. Explain the various phases in project management life cycle. Explain the necessity and objectives of SCM. This is the initial phase of any project. In this phase information is collected from the customer pertaining to the project and the requirements are analyzed.

The entire project has to be planned and it should be done in a strategic manner. The project manager conducts the analysis of the problem and submits a detailed report to the top project justification, details on what the

problem is a method of solving the problem, list of the objectives to be achieved, project budget and the success rate of completing the project. The report must also contain information and the project feasibility, and the risks involved in the project. Project management life cycle is the integrated part of management. It is attach with project responsibility or failure of a project.

The important tasks of this phase are as follows: Specification Requirements Analysis (SRA): It has to be conducted to determine the essential requirements of a project in order to achieve the target. Feasibility study: To analyze whether the project is technically, economically and practically feasible to be undertaken. Trade off analysis: To understand and examine the various alternatives which could be considered. Estimation: To estimate the project cost, effort requires for the project and functionality of various process in the project. System design: Choose a general design that can fulfil the requirements.

Project evolution: Evaluate the project in terms of expected profit, cost and risks involved marketing phase. A project proposal is prepared by a group of people including the project manager. This proposal has to contain the strategies adopted to market the product to the customers. Design phase: This phase involves the study of inputs and outputs of the various project stages. Execution phase: In this phase the project manager and the teams members work on the project objectives as per the plan. At every stage during the execution reports are prepared. Control: Inspecting, Testing and Delivery phase during this phase.

The project team works under the guidance of the project manager. The project manager has to ensure that the team working under his, implements

the project designs accurately, the project manager has to ensure ways of managing the customer, perform quality control work. Closure and post completion analysis phase upon satisfactory completion and delivery of the intended product or service the staff performance has to be evaluated. Document the lessons from the project. Prepare the reports on project feedback analysis followed by the project execution report. The phase which involve in the above are:

The preparation stage involves the preparation and approval of project outline, project plan and project budget. The next stage involves selecting and briefing the project team about the proposals followed by discussions on the roles and responsibility of the project member and the organization. The project management life cycle: A Life cycle of a project consists of the following: Understanding the scope of the project Establishing objectives of the project Formulating and planning various activities Project execution and Monitor and control the project resources. Risk Management:-

Risk is defined in ISO 31000 as the effect of uncertainty on objectives (whether positive or negative). Risk management can therefore be considered the identification, assessment, and prioritization of risks followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events or to maximize the realization of opportunities. Risks can come from uncertainty in financial markets, project failures, legal liabilities, credit risk, accidents, natural causes and disasters as well as deliberate attacks from an adversary.

Several risk management standards have been developed including the Project Management Institute, the National Institute of Science and Technology, actuarial societies, and ISO standards. Methods, definitions and goals vary widely according to whether the risk management method is in the context of project management, security, engineering, industrial processes, financial portfolios, actuarial assessments, or public health and safety. The strategies to manage risk include transferring the risk to another party, avoiding the risk, reducing the negative effect of the risk, and accepting some or all of the consequences of a particular risk.

Certain aspects of many of the risk management standards have come under criticism for having no measurable improvement on risk even though the confidence in estimates and decisions increase. Necessity and objectives of SCM:- SCM is the abbreviation of supply chain Management. It is considered by many express worldwide as the ultimate solution towards efficient enterprise management. SCM is required by an enterprise as a tool to enhance management effectiveness with a following organizational objective: Reduction of inventory:-Enactment in functional effectiveness of existing systems like ERP, Accounting.

Software and Documentation like financial reports statements ISO 9000 Documents etc. Enhancement of participation level and empowerment level:- Effective integration of multiple systems like ERP, communication systems, documentation system and secure, Design R systems etc. Better utilization of resources- men, material, equipment and money. Optimization of money flow cycle within the organization as well as to and from external agencies.

Enhancement of value of products, operations and services and consequently, enhancements of profitability.

Enhancement of satisfaction level of customer and clients, supporting institutions, statutory control agencies, supporting institutions, statutory control agencies, suppliers and vendors, employees and executives .

Enhancement of flexibility in the organization to help in easy implementation of schemes involving modernization, expansion and divestment, merges and acquisitions Enhancement of coverage and accuracy of management information systems. With the objectives of SCM its implementation are required.

Implementation is in the form of various functional blocks of an organization interpenetrated through which a smooth flow of the product development is possible. A relatively new SCM option involves web based software with a browser interface. Several electronic marketplaces for buying and selling goods and materials. Steps involved in the implementation of SCM:- There is many steps which involved in SCM implementation are- Business Process, sales and marketing.

Logistics, costing, demand planning, trade- off analysis, environmental requirement, process stability, integrated supply, supplier management, product design, suppliers, customers, material specifications, etc. Some important aspect of SCM- The level of competition existing in the market and the impact of competitive forces on the product development. Designing and working on a strategic logic for better growth through value invention. Working out new value curve in the product development along with

necessary break point. Using it to analyze markets and the economies in product design.

Time, customer, quality of product and the concept of survival of fittest. Steps of SCM principals: Group customer by need: Effective SCM groups, customer by tie tinct service meets those particular segment. Customize the logistics networks: In designing their logistics network, companies need to focus on the service requirement and profit potential of the customer segments identified. Listen to signals of market demand and plan accordingly- sales and operations planners must monitor the entire supply chain to detect early warning signals of changing customer demand and needs.

Differentiate the product closer to the customer: companies today no longer can afford to stock pile inventory to compensate for possible forecasting errors, instead, they need to postpone product differentiation in the manufacturing. Process closer to actual customer demand. Strategically manage the source of supply: by working closely with their key suppliers to reduce the overall casts of owning materials and services; SCM maximizes profit margins both for themselves, and their supplies.

Develop a supply chain wide technology strategy: as one of the cornerstones of successful SCM information technology must be able to support multiple levels of decision making. Adopt channel pning performance measures- Excellent supply performance measurement systems do more than just monitor internal functions. They apply performance criteria that embrace bathe service and financial metrics, including as such as each accounts true profitability. MB0045 - Financial Management Assignment set - 1 Q. 1 Write

the short notes on 1. Financial management 2. Financial planning 3. Capital structure 4. Cost of capital 5. Trading on equity.

Ans: 1. Financial Management Financial Management is Planning, directing, monitoring, organizing, and controlling of the monetary resources of an organization. The management of the finances of a business / organization in order to achieve financial objectives. Financial Management is the efficient and effective planning and controlling of financial resources so as to maximize profitability and ensuring liquidity for an individual (called personal finance), government (called public finance) and for profit and non-profit organization/firm (called corporate or managerial finance). Generally, it involves balancing risks and profitability.

The decision function of financial management can be divided into the following 3 major areas: INVESTMENT DECISION 1. Determine the total amount of assets needed by a firm hence closely tied to the allocation of funds 2. Two type of investment decisions namely: • Capital Investment decisions re: large sums, non routine, longer term, critical to the business like purchase of plant and machinery or factory • Working Capital Investment decisions re: more routine in nature, short term but are also very critical decisions like how much and how long to invest in inventories or receivables FINANCING DECISION . After deciding on the amount and type of assets to buy, the financial manager needs to decide on HOW TO FINANCE these assets with the sources of fund 2. Financing decisions for example: • Whether to use external borrowings/debts or share capital or retained earnings • Whether to borrow short, medium or long term • What sort of mix - all borrowings or part debts part share capital or 100% share capital • The

needs to determine how much dividend to pay out as this will directly affect the financial decision.

Financial Planning Financial Planning is an exercise aimed to ensure availability of right amount of money at the right time to meet the individual's financial goals. **Concept of Financial Planning** Financial Goals refer to the dreams of the investor articulated in financial terms. Each dream implies a purpose, and a schedule of funds requirements for realising the purpose. **Asset Allocation** refers to the distribution of the investor's wealth between different asset classes (gold, property, equity, debt etc). **Portfolio Re-balancing** is the process of changing the investor's asset allocation. **Risk Tolerance / Risk Preference** refers to the appetite of the investor for investment risk viz. risk of loss. **Financial Plan** is a road map, a blue print that lists the investors' financial goals and outlines a strategy for realising them. **Quality of the Financial Plan** is a function of how much information the prospect shares, which in turn depends on comfort that the planner inspires. **Capital Structure** Capital structure of a firm is a reflection of the overall investment and financing strategy of the firm.

Capital structure can be of various kinds as described below:

- **Horizontal capital structure:** the firm has zero debt component in the structure mix. Expansion of the firm takes through equity or retained earnings only.
- **Vertical capital structure:** the base of the structure is formed by a small amount of equity share capital. This base serves as the foundation on which the super structure of preference share capital and debt is built.
- **Pyramid shaped capital structure:** this has a large proportion consisting of equity capital; and retained earnings.
- **Inverted pyramid shaped capital structure:**

this has a small component of equity capital, reasonable level of retained earnings but an ever-increasing component of debt. SIGNIFICANCE OF CAPITAL STRUCTURE: - Reflects the firm's strategy - Indicator of the risk profile of the firm - Acts as a tax management tool - Helps to brighten the image of the firm. FACTORS INFLUENCING CAPITAL STRUCTURE: - Corporate strategy - Nature of the industry - Current and past capital structure Cost of Capital Cost of capital is the rate of return the firm requires from investment in order to increase the value of the firm in the market place.

In economic sense, it is the cost of raising funds required to finance the proposed project, the borrowing rate of the firm. Thus under economic terms, the cost of capital may be defined as the weighted average cost of each type of capital. There are three basic aspects about the concept of cost

1. It is not a cost as such: The cost of capital of a firm is the rate of return which it requires on the projects. That is why; it is a 'hurdle' rate.
2. It is the minimum rate of return: A firm's cost of capital represents the minimum rate of return which is required to maintain at least the market value of equity shares. . It consists of three components. A firm's cost of capital includes three components

- a. Return at Zero Risk Level: It relates to the expected rate of return when a project involves no financial or business risks.
- b. Business Risk Premium: Business risk relates to the variability in operating profit (earnings before interest and taxes) by virtue of changes in sales. Business risk premium is determined by the capital budgeting decisions for investment proposals.
- c. Financial Risk Premium: Financial risk relates to the pattern of capital structure (i. e. debt-equity mix) of the firm, In general, a firm which has higher debt content in its capital structure should have more

risk than a firm which has comparatively low debt content. This is because the former should have a greater operating profit with a view to covering the periodic interest payment and repayment of principal at the time of maturity than the latter. Trading on Equity When a co. uses fixed interest bearing capital along with owned capital in raising finance, is said " Trading on Equity". (Owned Capital = Equity Share Capital + Free Reserves)

Trading on equity represents an arrangement under which a company uses funds carrying fixed interest or dividend in such a way as to increase the rate of return on equity shares. It is possible to raise the rate of dividend on equity capital only when the rate of interest on fixed - interest - bearing - security is less than the rate of return earned in business. •Two other terms:

- Trading on Thick Equity :- When borrowed capital is less than owned capital
- Trading on Thin Equity :- When borrowed capital is more than owned capital, it is called Trading on thin Equity.

Q. 2 a. Write the features of interim dividend and also write the factors (08 Marks) Influencing dividend policy? b. What is reorder level? Ans: a) Usually, board of directors of company declares dividend in annual general meeting after finding the real net profit position. If boards of directors give dividend for current year before closing of that year, then it is called interim dividend. This dividend is declared between two annual general meetings. Before declaring interim dividend, board of directors should estimate the net profit which will be in future.

They should also estimate the amount of reserves which will deduct from net profit in profit and loss appropriation account. If they think that it is sufficient for operating of business after declaring such dividend. They can issue but

after completing the year, if profits are less than estimates, then they have to pay the amount of declared dividend. For this, they will have to take loan. Therefore, it is the duty of directors to deliberate with financial consultant before taking this decision.

Accounting treatment of interim dividend in final accounts of company:- #

First Case : Interim dividend is shown both in profit and loss appropriation account and balance sheet , if it is outside the trial balance in given question. (a) It will go to debit side of profit and loss appropriation account (b) It will also go to current liabilities head in liabilities side. # Second Case: Interim dividend is shown only in profit and loss appropriation account, if it is shown in trial balance. (a) It will go only to debit side of profit and loss appropriation account.

If in final declaration is given outside of trial balance and this will be proposed dividend and interim dividend in trial balance will be deducted for writing proposed dividend in profit and loss appropriation account and balance sheet of company, because if we will not deducted interim dividend, then it will be double deducted from net profit that is wrong and error shows when we will match balance sheets assets with liabilities. Factors affecting dividend policy. The dividend decision is difficult decision because of conflicting objectives and also because of lack of specific decision-making techniques.

It is not easy to lay down an optimum dividend policy which would maximize the long-run wealth of the shareholders. The factors affecting dividend policy are grouped into two broad categories. 1. Ownership considerations 2. Firm-oriented considerations Ownership considerations: Where ownership is

concentrated in few people, there are no problems in identifying ownership interests. However, if ownership is decentralized on a wide spectrum, the identification of their interests becomes difficult. Various groups of shareholders may have different desires and objectives.

Investors gravitate to those companies which combine the mix of growth and desired dividends. Firm-oriented considerations: Ownership interests alone may not determine the dividend policy. A firm's needs are also an important consideration, which include the following:

- Contractual and legal restrictions
- Liquidity, credit-standing and working capital
- Needs of funds for immediate or future expansion
- Availability of external capital.
- Risk of losing control of organization
- Relative cost of external funds
- Business cycles
- Post dividend policies and stockholder relationships.

The following factors affect the shaping of a dividend policy:

Nature of Business: Companies with unstable earnings adopt dividend policies which are different from those which have steady earnings.

Composition of Shareholding: In the case of a closely held company, the personal objectives of the directors and of a majority of shareholders may govern the decision. To the contrary, widely held companies may take a dividend decision with a greater sense of responsibility by adopting a more formal and scientific approach.

Investment Opportunities: Many companies retain earnings to facilitate planned expansion.

Companies with low credit ratings may feel that they may not be able to sell their securities for raising necessary finance they would need for future expansion. So, they may adopt a policy for retaining larger portion of earnings. Similarly, is a company has lucrative opportunities for investing its

funds and can earn a rate which is higher than its cost of capital, it may adopt a conservative dividend policy. Liquidity: This is an important factor. There are companies, which are profitable but cannot generate sufficient cash, since profits are to be reinvested in fixed assets and working capital to boost sales.

Restrictions by Financial Institutions: Sometimes financial institutions which grant long-term loans to a company put a clause restricting dividend payment till the loan or a substantial part of it is repaid. Inflation: In period of inflation, funds generated from depreciation may not be adequate to replace worn out equipment. Under inflationary situation, the firm has to depend upon retained earnings as a source of funds to make up for the shortfall. Consequently, the dividend pay out ratio will tend to be low. Other factors: Age of the company has some effect on the dividend decision.

The demand for capital expenditure, money supply, etc. , undergo great oscillations during the different stages of a business cycle. As a result, dividend policies may fluctuate from time to time. Ans b) Reorder Level This is that level of materials at which a new order for supply of materials is to be placed. In other words, at this level a purchase requisition is made out. This level is fixed somewhere between maximum and minimum levels. Order points are based on usage during time necessary to requisition order, and receive materials, plus an allowance for protection against stock out.

The order point is reached when inventory on hand and quantities due in are equal to the lead time usage quantity plus the safety stock quantity. Formula of Re-order Level or Ordering Point: The following two formulas are used for the calculation of reorder level or point. Ordering point or re-order

level = Maximum daily or weekly or monthly usage ? Lead time The above formula is used when usage and lead time are known with certainty; therefore, no safety stock is provided. When safety stock is provided then the following formula will be applicable: Ordering point or re-order level = Maximum daily or weekly or monthly usage ?

Lead time + Safety stock Q. 3 Sales Rs. 400, 000 less returns Rs 10, 000, Cost of Goods Sold Rs 300, 000, Administration and selling expenses Rs. 20, 000, Interest on loans Rs. 5000, Income tax Rs. 10000, preference dividend Rs. 15, 000, Equity Share Capital Rs. 100, 000 @Rs. 10 per share. Find EPS.

Sales Rs. 400, 000 less returns Rs 10, 000, Cost of Goods Sold Rs 300, 000, Administration and selling expenses Rs. 20, 000, Interest on loans Rs. 5000, Income tax Rs. 10000, preference dividend Rs. 15, 000, Equity Share Capital Rs. 100, 000 @Rs. 10 per share. Find EPS.

Sales		400, 000		Less		Returns		10, 000		390, 000		Less		COGS		30, 000		S		20, 000		Int on Loan		5, 000		IT		10, 000		325, 000		Div		15, 000		ESC		100, 000	@ 10/-		NPAT - Pref Share Div		No of	Shares		NPAT		55, 000		less Pref Share Div		15, 000		40, 000		EPS		40, 000	=	Rs. 4/-		10, 000	
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Q. 4 What are the techniques of evaluation of investment? Three steps are involved in the evaluation of an investment: •Estimation of cash flows •Estimation of the required rate of return (the opportunity cost of capital) •Application of a decision rule for making the choice. The first two steps, discussed in the subsequent chapters, are assumed as given. Thus, our discussion in this chapter is confined to the third step. Specifically, we focus on the merits and demerits of various decision rules. Investment decision rule

The investment decision rules may be referred to as capital budgeting techniques, or investment criteria. A sound appraisal technique should be used to measure the economic worth of an investment project. The essential property of a sound technique is that it should maximize the shareholders' wealth. The following other characteristics should also be possessed by a sound investment evaluation criterion.

- It should consider all cash flows to determine the true profitability of the project.
- It should provide for an objective and unambiguous way of separating good projects from bad projects.
- It should help ranking of projects according to their true profitability. It should recognize the fact that bigger cash flows true profitability.
- It should recognize the fact that bigger cash flows are preferable to smaller ones and early cash flows are preferable to later ones.
- It should help to choose among mutually exclusive projects that project which maximizes the shareholders' wealth.
- It should be a criterion which is applicable to any conceivable investment project independent of other.

These conditions will be clarified as we discuss the features of various investment criteria in the following pages. Evaluation criteria A number of investment criteria (or capital budgeting techniques) are in use in practice. They may be grouped in the following two categories: 1.

Discounted cash flow (DCF) criteria • Net present value (NPV) • Internal rate of return (IRR) • Profitability index (PI) 2. Non-discounted cash flow criteria • Payback period (PB) • Discounted payback period • Accounting rate of return (ARR). Discounted payback is a variation of the payback method. It involves discounted cash flows, but as we shall see later, it is not a true measure of investment profitability. We will show in the following pages that the net

present value criterion is the most valid technique of maximizing the shareholders wealth. Problems associated with inadequate working capital Working capital may be regarded as the life blood of business.

Working capital is of major importance to internal and external analysis because of its close relationship with the current day-to-day operations of a business. Every business needs funds for two purposes. * Long term funds are required to create production facilities through purchase of fixed assets such as plants, machineries, lands, buildings & etc * Short term funds are required for the purchase of raw materials, payment of wages, and other day-to-day expenses. . It is other wise known as revolving or circulating capital It is nothing but the difference between current assets and current liabilities. i. e. Working Capital = Current Asset - Current Liability. Businesses use capital for construction, renovation, furniture, software, equipment, or machinery.

It is also commonly used to purchase inventory, or to make payroll. Capital is also used often by businesses to put a down payment down on a piece of commercial real estate. Working capital is essential for any business to succeed. It is becoming increasingly important to have access to more working capital when we need it. Q. 5 What are the problems associated with inadequate working capital? A business firm must maintain an adequate level of working capital in order to run its business smoothly. It is worthy to note that both excessive and inadequate working capital positions are harmful. Working capital is just like the heart of business. If it becomes weak, the business can hardly prosper and survive.

No business can run successfully without an adequate amount of working capital. Danger of inadequate working capital When working capital is inadequate, a firm faces the following problems. Fixed Assets cannot efficiently and effectively be utilized on account of lack of sufficient working capital. Low liquidity position may lead to liquidation of firm. When a firm is unable to meet its debts at maturity, there is an unsound position. Credit worthiness of the firm may be damaged because of lack of liquidity. Thus it will lose its reputation. There by, a firm may not be able to get credit facilities. It may not be able to take advantages of cash discount.

Disadvantages of Redundant or Excessive Working Capital 1.

Excessive Working Capital means idle funds which earn no profits for the business and hence the business cannot earn a proper rate of return on its investments. 2. When there is a redundant working capital, it may lead to unnecessary purchasing and accumulation of inventories causing more chances of theft, waste and losses. 3. Excessive working capital implies excessive debtors and defective credit policy which may cause higher incidence of bad debts. 4. It may result into overall inefficiency in the organization. 5. When there is excessive working capital, relations with banks and other financial institutions may not be maintained. 6. Due to low rate of return on investments, the value of shares may also fall. 7.

The redundant working capital gives rise to speculative transactions.

Disadvantages or Dangers of Inadequate Working Capital 1. A concern which has inadequate working capital cannot pay its short-term liabilities in time. Thus, it will lose its reputation and shall not be able to get good credit facilities. 2. It cannot buy its requirements in bulk and cannot avail of

discounts, etc. 3. It becomes difficult for the firm to exploit favourable market conditions and undertake profitable projects due to lack of working capital. 4. The firm cannot pay day-to-day expenses of its operations and it creates inefficiencies, increases costs and reduces the profits of the business. 5.

It becomes impossible to utilize efficiently the fixed assets due to non-availability of liquid funds. 6. The rate of return on investments also falls with the shortage of working capital. Disadvantages or Dangers of Inadequate or Short Working Capital

- Can't pay off its short-term liabilities in time.
- Economies of scale are not possible.
- Difficult for the firm to exploit favourable market situations
- Day-to-day liquidity worsens
- Improper utilization the fixed assets and ROA/ROI falls sharply

Q. 6 What is leverage? Compare and Contrast between operating Leverage and financial leverage (10 Marks) 'Leverage' is the action of a lever or the mechanical advantage gained by it; it also means 'effectiveness' or 'power'.

The common interpretation of leverage is derived from the use or manipulation of a tool or device termed as lever, which provides a substantive clue to the meaning and nature of financial leverage. When an organization is planning to raise its capital requirements (funds), these may be raised either by issuing debentures and securing long term loan Or by issuing share-capital. Normally, a company is raising fund from both sources. When funds are raised from debts, the Co. investors will pay interest, which is a definite liability of the company. Whether the company is earning profits or not, it has to pay interest on debts. But one benefit of raising funds from debt is that interest paid on debts is allowed as deduction for income tax.

When funds are raised by issue of shares (equity) , the investor are paid dividend on their investment. Dividends are paid only when the Company is having sufficient amount of profit. In case of loss, dividends are not paid. But dividend is not allowed as deduction while computing tax on the income of the Company. In this way both way of raising funds are having some advantages and disadvantages. A Company has to decide that what will be its mix of Debt and Equity, considering the liability, cost of funds and expected rate of return on investment of fund. A Company should take a proper decision about such mix, otherwise it will face many financial problems.

For the purpose of determination of mix of debt and equity, leverages are calculated and analyzed. Concept of Financial Leverage Leverage may be defined as the employment of an asset or funds for which the firm pays a fixed cost or fixed return. The fixed cost or return may, therefore be thought of as the full annum of a lever. Financial leverage implies the use of funds carrying fixed commitment charge with the objective of increasing returns to equity shareholders. Financial leverage or leverage factor is defined, as the ratio of total value of debt to total assets or the total value of the firm. For example, a firm having a total value of Rs. , 00, 000 and a total debt of Rs. 1, 00, 000 would have a leverage factor of 50 percent. There are difficult measures of leverage such as. i. The ratio of debt to total capital ii. The ratio of debt to equity iii. The ratio of net operating income (earning before interest and taxes) to fixed' charges) The first two measures of leverage can be expressed either in book value or market value the debt of equity ratio as a measure of financial leverage is more popular in practice. " Risk &

Financial Leverage: Effects of financial Leverage: The use of leverage results in two obvious effects: i. Increasing the shareholders earning under favorable economic conditions, and ii.

Increasing the financial risk of the firm. Suppose there are two companies each having a Rs. 1, 00, 000 capital structure. One company has borrowed half of its investment while the other company has only equity capital: Both earn Rs. 2, 00, 000 profit. The ratio of interest on the borrowed capital is 10% and the rate of corporate tax 50%. Let us calculate the effect of financial leverage, both in the shareholders earnings and the Company's financial risk in these two companies.

(a) Effect of Leverage on Shareholders Earnings:

	Company A	Company B
Rs.	Rs.	
Profit before Interest and Taxes	2, 00, 000	2, 00, 000
Equity	10, 00, 000	5, 00, 000
Debt	—	5, 00, 000
Interest (10%)	—	50, 000
Profit after interest but before Tax	2, 00, 000	1, 50, 000
Taxes @ 50%	1, 00, 000	75, 000
Rate of return on Equity of Company A	Rs. 1, 00, 000 / Rs. 10, 00, 000 = 10%	Rate of return on Equity of Company B
		Rs. 75, 000 / Rs. 5, 00, 000 = 15%

The above illustration points to the favorable effect of the leverage factor on earnings of shareholders. The concept of leverage is 5 if one can earn more on the borrowed money that it costs but detrimental to the man who fails to do so far there is such a thing as a negative leverage i. e. borrowing money at 10% to find that, it can earn 5%. The difference comes out of the shareholders equity so leverage can be a double-edged sword. b) Effect of Leverage on the financial risk of the company: Financial risk broadly defined includes both the risk of possible insolvency and the changes in the earnings available to equity shareholders. How does the

leverage factor leads to the risk possible insolvency is self-explanatory. As defined earlier the inclusion of more and more debt in capital structure leads to increased fixed commitment charges on the part of the firm as the firm continues to lever itself, the changes of cash insolvency leading' to legal bankruptcy increase because the financial ' charges incurred, by the firm exceed the expected earnings. Obviously this leads to fluctuations in earnings' available to the equity shareholders. Relationship: Financial and Operating leverage:

Relationship between financial and operating leverage: In business terminology, leverage is used in two senses: Financial leverage & Operating Leverage Financial leverage: The effect which the use of debt funds produces on returns is called financial leverage. Operating leverage: Operating leverage refers to the use of fixed costs in the operation of the firm. A firm has a high degree of operating leverage if it employs a greater amount of fixed costs. The degree of operating leverage may be defined as the percentage change in profit resulting from a percentage change in sales. This can be expressed as:
$$\text{Degree of Operating Leverage} = \frac{\text{Percent Change in Profit}}{\text{Percent Change in Sales}}$$

The degree of financial leverage is defined as the percent change in earnings available to common shareholders that is associated with a given percentage change in EBIT. Thus, operating leverage affects EBIT while financial leverage affects earnings after interest and taxes the earnings available to equity shareholders. For this reason operating leverage is sometimes referred to as first stage leverage and financial leverage as second stage leverage. Therefore, if a firm uses a considerable amount of both operating

leverage and financial leverage even small changes in the level of sales will produce wide fluctuations in earnings per share (EPS).

The combined effect of both these types of leverages is after called total leverage which, is closely tied to the firm's total risk. MB0046 -Marketing Management Assignment Set - 1 Q. 1 Ja. Explain the different micro-environmental forces with examples. Forces in the micro environment [pic] 1 The Company Remember, in the previous unit we discussed about marketing mix and marketing plan. Safe Express, a leader in the supply chain management solution wants to hold its number one position in the US \$ 90 billion Indian logistics market. The company plans to expand its service areas in the coming months. To meet the targets of the marketing plan, other departments of safe express also expanding their horizon.

The Company is coming out with logistics parks in different cities; plans to hold seven million square feet of warehousing capacity in the next three years and invest Rs 10 billion in three years to meet those targets. The above example shows that the company's marketing plan should be supported by the other functional departments also. 2 Intermediaries Marketing intermediaries: These are firms which distribute and sell the goods of the company to the consumer. Marketing intermediaries play an important role in the distribution, selling and promoting the goods and services. Stocking and delivering, bulk breaking, and selling the goods and services to customer are some of the major functions carried out by the middlemen.

Retailers, wholesalers, agents, brokers, jobbers and carry forward agents are few of the intermediaries. Retailers are final link between the company and the customers. Their role in the marketing of product is increasing every day.

3 Publics These are microenvironment groups, which help a company to generate the financial resources, creating the image, examining the companies' policy and developing the attitude towards the product. We can identify six types of publics 1. Financial publics influence the company's ability to obtain funds. For example, Banks, investment houses and stockholders are the major financial publics. 2. Media publics carry news and features about the company e. g.

Deccan Herald 3. Advertisement regulation agencies, telecom regulation agency(TRAI), and insurance regulation agency(IRDA) of the government 4. Citizen action groups: Formed by the consumer or environmental groups. For example, people for ethical treatment of animals (PETA) or Greenpeace. 5. General publics: a compa