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**16/SCI03/007**

**CSC 322**

1a. (i) The 6M's include

1. Method; if one team is developing software following a waterfall approach while a second is using an Agile practice and a third is using kanban, each method is different.
2. Mother Nature ''Environmental'' ; offices in the north are more lenient to snow days than those in the south.
3. Man; Man in management is referred to as human resource. It's the recruitment, selection, training, promotion, and grievances handling of personel.
4. Machine; these are the basic tools to produce goods or to generate services.
5. Material; is a basic ingredient in management be it a service or a product industry.
6. Money; Management is done to meet day to day business requirements and the funds involved in meeting those requirements are known as working capital.

ii) Information is a raw data that has been processed into meanigful data to the user who will use it to make appropriate decisions.

iii) System is a set of connected devices that operate or work together toward a common goal.

iv) Management Information System (MIS); is a system or process that provides the information necessary to manage an organization effectively.

1b) **For Decision Making**; It provides decision makers with facts and enhance the overall decision making process.

ii) **Job Performace**; It improves Job performance throughout the organization as data and information availability and processing done on time.

iii) **For Prediction**; they help in making predictions and for drawing inferences based on the facts gathered.

iv) **For Decision Taking**; examples are Automatic pilot systems in Aeroplane and Modern Factory production (orders are placed automatically by the computer).

v) For Storing Data

1c) **Integrated**; this is simply a comprehensive or complete view of all the subsystems in the organization of a company.

ii) **Subsystem Concept**; When a system is seen in two sub parts, then the better solution to the problem is possible.

iii) **Common Database**; this is the basic feature of MIS to achieve the objecive of using MIS in business organizations.

iv) **User friendly/flexibility**; An MIS should be flexible.

v) **Information as a Resource**; Information is the major ingredient of MIS.

2) i) **Strategic Management**; This level of management coordinates the activities of the whole organization. A board of directors and an executive commitee of the CEO and top executives monitor the strategic performance of the organization and its overall direction in the economic and competitive business environment.

ii) **Tactical Management**; the overall function in this level is to implement the stategic management policy. Business professionals allocate resoures and monitor the performance of their organizational subunits.

iii) **Operational Management**; this level is concerned with the day to day process of supervision. The members of operating managers develop short range plan such as weekly production schedule.

2b) **Identifying Investment Opportunities**; An organization needs to first identify an investment opportunity. This can be anything from a new business line to product expansion to purchasing a new asset. For example, a company finds two products that they can add to their product line.

ii) **Evaluating Investment Proposals**; once it is decided that a new product(s) should be added to the product line, the next step would be deciding on how to acquire these products.

iii) **Choosing a profitable investment**; while selecting a particular project an organization may have to use the technique of capital rationing to rank the projects as per returns and select the best option available.

iv) **Capital budgeting and apportionment**; after the project is selected an organization needs to fund this project. To fund the project, it needs to identify the sources of funds and allocate it accordingly.

v) **Performance Review**; this is the last step in the process of capital budgeting. Initially the organization had selected a particular investment for a predicted return.

3) Information Technology is the technique employed in acquiring, processing, storage, and dissemination of video and other discrete information with the aid of electronics of computing devices and telecommunication gadgets.

b) **Video conferencing**: this is the technology where participants in different places are connected by both audio and video links to hold meetings. "while"

**Tele-conferencing**: this is an offshoot of one-to-one telephone conversation. It allows many people to be simultaneously connected so that different places at a time.

c) **Office support systems**; the specific area of application includes text handling, data storage and referencing, microform, and telecommunication.

ii) **Data Professing**; this is also known as transaction processing. This is necessary in order to ensure that day-to-day activites of the the organization are processed, recorded and operated on.

iii) **End user competing**; some of the area of application here include: expert systems, computer based training, decision support system, end user programming etc.

4a) **Capital Project**; this is a project that helps maintain or improve a city asset often called infrastructure. Some examples include railways, roads, and dams. Capital projects are common in corporations.

ii) **Capital Budgeting**; and investment appraisal, is the planning process used to determine whether an organisations long term investments such as new machinery, replacement of machinery etc are worth the funding of cash through the firm's captitalization structure.

iii) **Budget**; this is a financial plan for a defined period often one year. Financial forecasts are dynamic and active. It is also a financial plan of expeted cash inflows that a business generates. Some types are flexible, rolling etc.

iv) **Capital Rationing**; this is the act of placing restrictions on the amount of new investments or projects undertaken by a company. This is accomplished by imposing a higher cost of capital for investment consideration or by setting a ceiling on specific portions of a budget.

4b) Discounted cash flow

ii) Capital budgeting

iii) Net present value (NPV)

iv) Internal Rate of Return (IRR)

v) Cost Benefit Analysis

5b) **What If Analysis**; In what-if anaylsis, a user makes changes to variables, or relationships among variables and observes the resulting changes in the values of other variables.

ii) **Sensitivity Analysis**; this is a special case of the what-if analysis. Basically, the value of only one variable is changed repeatedly and the resulting changes on other variables are observed.

iii) **Goal-SeekingAnalysis**; this reverses the direction of the analysis done in what-if and sensitivity analysis sets a target value (goal) for a variable and the repeatedly changes other variables until the target value is achieved.

6a) Decision support systems are computer-based information systems that provide interactive information support to managers and business professionals the decision making process.

b) Support all phases of the decision making processes

ii) Provides access to variety of data sources, formats and types

iii) Provides support to interdependent and / or sequential decisions

iv) The decision maker controls the decision making process

v) Provides support to individuals and groups.

c) Using decision structure under DSS; the three levels of management are;

i) **Strategic Management**: Decisions made at the strategic management level tends to be more **unstructured**. Unstructured decisions involve decisions situations in which it's not possible to specify on advance most of the decision procedures to follow. For example; What business should we be in 10 years from now?

ii) **Operational Management**: The decisions made here tend to be more **structured**. Structured decisions involve situations in which procedures to follow, when a decision is needed, can be specified in advance. For example, the inventory reorder decisions that most businesses face are a typical example.

iii) **Tactical Management**: The decisions made in this level tend to be **semi-structured**. Most business decision situations are semi-structured; that is some decision procedures can be prespecified but not enough to be lead to a definite recommended decision. For example, decisions involved in starting a new line of e-commerce services.

7. Net present value is the difference between the present value of cash inflows and the cash outflows. It estimates the amount of wealth that the project creates.

7b) Formula for NPV

NPV = (cash flows) / (1 + r) i

i = inital investment

cash flows = cash flows in the time period

r = Discount rate

i = time period

**Flow Computation**

1,000,000,000

200,000 200,000 / (1.05)

300,000 300,000 / (1.05)^2

400,000 400,000 / (1.05)^3

500,000 500,000 / (1.05)^4

The NPV is -$998,780,528.68

ii) The NPV is negative, hence, the project is not feasible.