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MODULE: SEMESTER-VI

Course: Information System and data processing

Program: BS (SE)

Instructor: Muhammad Abrar Khan

Examination: Midterm Assignment

Total Marks: 30

Date: Apr. 13, 2020

Note: Attempt all questions. Use examples and diagrams where necessary.

Q.1

a) Why we define different needs before taking any task, elaborate your answer. ans(a):

Decisions are required to be taken in day to day life. No single task in our life can be done without decision making. For every assignment we undertake, there has to be a process of making choices. Whenever we are faced with choices, there is an inevitable need of selecting one particular course of action. Any task can be done in various ways, but doing it simultaneously through all possible alternatives is virtually impossible. This necessitates making a reasonable choice from all the options available. An example can be taken for a person who wants to go to Islamabad.

He can look at following options.

- Use any of the local bus service available
- Go by train
- Travel by air

As you can see, the decision to be made in this situation is faced with the availability of a set of combination of alternatives.

- Every decision we take in daily life requires some sort of information about the alternatives available. For instance, in the above example certain factors need to be considered before taking a decision.
- How urgent it is to reach to Islamabad How much time is available to accommodate travelling, since each mode of travelling will take different time to reach at the same destination?
- Whether bookings are available for the desired day and time.

- Is there any possibility of cancellation of booking or flight or bus service.
- Which bus service or airline to chose from, since various airlines and bus services are having travelling facilities to Islamabad.
- Without the availability of relevant information, we may take a decision which is wrong or not to our benefit. For instance if the person does not have complete knowledge of facts he might not be able to take the right decision.
- b) What information is required if a person is thinking to start a specific business, also discuss different sources of information.

 ans(b)

The information required by a person who is starting a business need to know the Answers to these types of questions which will help you narrow your focus: Why do you want to start a business? Is it money, freedom and flexibility, to solve a problem, or some other reason?

- •What are your skills?
- •What industries do you know about?
- •Do you want to provide a service or a product?
- •What do you like to do?
- •How much capital do you have to risk?
- •Will it be a full-time or a part-time venture?

Sources of Information:

- Primary Sources
- Secondary Sources
- Tertiary Sources

Primary Sources:

These sources are records of events or evidence as they are first described or actually happened without any interpretation or commentary. It is information that is shown for the first time or original materials on which other research is based. Primary sources display original thinking, report on new discoveries, or share fresh information.

Examples of primary sources:

Theses, dissertations, scholarly journal articles (research based), some government reports, symposia and conference proceedings, original artwork, poems, photographs, speeches, letters, memos, personal narratives, diaries, interviews, autobiographies, and correspondence.

Secondary Sources:

These sources offer an analysis or restatement of primary sources. They often try to describe or explain primary sources. They tend to be works which summarize, interpret, reorganize, or otherwise provide an added value to a primary source.

Examples of Secondary Sources:

Textbooks, edited works, books and articles that interpret or review research works, histories, biographies, literary criticism and interpretation, reviews of law and legislation, political analyses and commentaries. A newspaper article is a primary source if it reports events, but a secondary source if it analyses and comments on those events.

Tertiary Sources:

These are sources that index, abstract, organize, compile, or digest other sources. Some reference materials and textbooks are considered tertiary sources when their chief purpose is to list, summarize or simply repackage ideas or other information. Tertiary sources are usually not credited to a particular author.

Examples of Tertiary Sources:

Dictionaries/encyclopedias (may also be secondary), almanacs, fact books, Wikipedia, bibliographies (may also be secondary), directories, guidebooks, manuals, handbooks, and textbooks (may be secondary), indexing and abstracting sources.

Q.2 What is organization? Explain different types of organization in detail.

ANS(2):

Organization:

"Organization" is understood as planned, coordinated and purposeful action of human beings in order to construct or compile a common tangible or intangible product or service. This action is usually framed by formal membership and form (institutional rules). Organization is a permanent arrangement of elements. These elements and their actions are determined by rules so that a certain task can be fulfilled through a system of coordinated division of labour. OR

A structure through which individuals cooperate systematically to conduct business. It is a collection of people working under predefined rules and regulations to obtain a set of objectives. It is a stable formal social structure. It takes resources from the environment and processes them to produce outputs.

Types of Organization:

- Formal Organization Structure: The organization structure of jobs and
 positions, with specified activities and relationships, is known as formal
 organization structure. It is created by management, to attain the objectives of the
 company.
 - **Line Organization:** Line organization is the oldest and simplest pattern of organization, wherein the supervisor has outright supervision over the subordinate. The flow of authority is from the top level executive to the person at the lowest level of the organization's echelon.
 - Functional Organization: As the name suggests, functional organization structure is one in which the thorough task of managing and directicting the employees, is grouped as per the functions or type of work involved.
 - Line and Staff Organization: This type of organization structure is an improvement over the traditional line organization. In line and staff organization primary and supportive activities are related to the line of supervision by appointing supervisor and specialist, who are linked to line authority.
 - Project Management Organization: Project Organization is not an independent organization, like the organization structure discussed above. Instead it is a set up within an organization, so as to accomplish a project or firm's objectives. It is led by project manager, who is responsible for project objectives.
 - **2. Informal Organization Structure:** The relationship between the employees, that relies on personal attitudes, prejudices and interests rather than procedures. It is system of personal and social connection, whose creation is not needed by formal organization.

The organization structure is a basic idea, which depends on the activity authority relationship in the company. It is designed in such a way to realise business objectives.

Q.3 What are the difference between Data and Information? Give detail with proper examples and explanations.

ANS(3):

DATA:

Data is a raw and unorganized fact that required to be processed to make it meaningful. Data can be simple at the same time unorganized unless it is organized. Generally, data comprises facts, observations, perceptions numbers, characters, symbols, image, etc. Data is always interpreted, by a human or machine, to derive meaning. So, data is meaningless. Data contains numbers, statements, and characters in a raw form.

INFORMATION:

Information is a set of data which is processed in a meaningful way according to the given requirement. Information is processed, structured, or presented in a given context to make it meaningful and useful. It is processed data which includes data that possess context, relevance, and purpose. It also involves manipulation of raw data.

The points given below are substantial, so far as the difference between data and information is concerned:

- 1. Raw facts gathered about a condition, event, idea, entity or anything else which is bare and random, is called data. Information refers to facts concerning a particular event or subject, which are refined by processing.
- 2. Data are simple text and numbers, while information is processed and interpreted data.
- 3. Data is in an unorganized form, i.e. it is randomly collected facts and figures which are processed to draw conclusions. On the other hand, when the data is organised, it becomes information, which presents data in a better way and gives meaning to it.

- 4. Data is based on observations and records, which are stored in computers or simply remembered by a person. As against this, information is considered more reliable than data, as a proper analysis is conducted to convert data into information by the researcher or investigator.
- 5. When it comes to dependency, data does not depend on information. However, information cannot exist without data.