

Department of Electrical Engineering

**Engineering Management and Economics
Assignment**

Spring-2019-20, Dated 13-4-2020

Instr: Dr. Jehanzeb Khan

Time= 5 Days

Marks 30

NAME: FAWAD AHMAD

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Q.1:

1. Engineering Management is:

A. An art

✓ **B. Both science and art**

C. A science

D. Neither art nor science

2. Engineers can become good managers only through _____.

A. Experience

B. Taking master degree in management

✓ **C. Effective career planning**

D. Trainings

3. When engineer enters management, what is the most likely problem he finds difficult to acquire?

A. Learning to trust others

B. Learning how to work through others

C. Learning how to take satisfaction in the work of others

✓ **D. All of the above**

4. Strategic planning is undertaken in which management level?

A. Lower management level

B. Middle management level

✓ **C. Top management level**

D. Lowest management level

5. What management functions refers to the process of anticipating problems, analyzing them, estimating their likely impact and determining actions that will lead to the desired outcomes and goals?

✓ **Planning**

B. Leading

C. Controlling

D. Organizing

6. What refers to the establishing interrelationships between people and things in such a way that human and materials resources are effectively focused toward achieving the goal of the company?

A. Planning

B. Leading

C. Controlling

✓ **D. Organizing**

7. Actual performance normally is the same as the original plan and therefore it is necessary to check for deviation and to take corrective action. This action refers to what management function?

A. Organizing

B. Planning

✓ **C. Controlling**

D. Staffing

8. Strategic planning is undertaken in which management level?

A. Lower management level

B. Middle management level

✓ **C. Top management level**

D. Lowest management level

9. For a project manager to achieve his given set of goals through other people, he must have a good _____.

✓ **Interpersonal skills**

B. Communication skills

C. Leadership

D. Decision- making skills

10. An engineer is required to finish a certain engineering job in specific time. He is said to be _____ if he finished the job within the required specific time.

A. Efficient

✓ **B. Effective**

C. Reliable

D. Qualified

11. If an engineer provides less input (labor and materials) to his project and still come out with the same output, he is said to be more _____.

A. Managerial skill

B. Economical

C. Effective

✓ **D. Efficient**

Q.2 a) A Manager's job is complex and multidimensional and requires a range of skills. What are those skills, discuss in detail.

5 Marks

b) Briefly explain characteristics of authority.

5 Marks

Q.3: a) How does a project emerge? Describe its characteristics.

5 Marks

b) An international Conference is planned in Iqra national University. The activities listed down with their predecessors and time taken. Prepare a network diagram and determine the critical path.

5 Marks

Activity	Precedence	Time
A Date, topics & Speaker	-	5 days
B Prepare logo & brochures	-	1 day
C Send letters to speakers	B	2 days
D Get confirmation from Speakers	C	5 days
E Send letters to participants	C,D	2 days
F Obtain travel plan from speakers	D	2 days
G Arrange Accommodation	F	1 day
H Get handouts from speakers	F	4 days
I Finalize Registration	G,H	10 days
J Setting of Hall	I	1 day
K Conduct of Program	J	1 day

SOLUTION OF THE PAPER/ANSWER SHEET

Q 2 (Part a)

A manager's job is complex and multidimensional and requires a range of skills. What are those skills discuss in detail?

Answer:-

A manager's job is complex and multidimensional and as we shall see throughout this book requires a range of skills.

Although some management theorists propose a long list of skills the necessary skills for managing a department or an organization can be summarized in three categories. Conceptual, Human, and technical.

⊛ Types of management skill:-

According to American social and organizational psychologist Robert Katz, the three basic types of management skills include.

① Technical Skills:-

Technical skill involve skill that gives the manager the ability and knowledge to use a variety of techniques.

to Achieve their objectives. These skills not only involve operating machine and software Production tools and Pieces of Equipment but also skills needed to boost sales, design different types of Product and Service and market the Service and the Products.

② Conceptual Skills :-

These involve the Skill manager Present in term of knowledge and ability for abstract thinking and Formulating ideas.

The manager is able to see entire Concept, Analyze and diagnose a Problem and find Creative Solution.

③ Human or Interpersonal Skills :-

The human or the interpersonal skills are the skills that present the manager Ability to interact work or relate effectively with people. These skills enable to manager to make use of human potential in the Company and motivate the employees for better results.

Q2 Part (B)

Briefly explain Characteristics of Authority?

Answer :-

⊕ Meaning of Authority :-

Authority is the formal right to do work. Henry Fayol defined the authority as "right to give order and power to exact obedience. Authority gives the management the power to enforce obedience. It is power to give order and make sure that these orders are obeyed."

⊕ Some of the important characteristics of Authority are :

Ⓐ Legitimacy Ⓑ Dominance Ⓒ An informal power Ⓓ Rationality Ⓔ Accountability.

Ⓐ Legitimacy :-

It determines the effectiveness of Authority. Hence it is the hall mark of the concept of Authority according to Robert Dahl "A Command B and B feels A has perfect right to do so and to which he has complete obligation to obey."

Ⓑ Dominance :-

Authority is the capacity of the individual to command others. An individual or a group which possesses authority exercise dominance over other individual. Authority is a command of superior to an inferior.

Ⓒ An informal Power :-

It is ~~the~~ not a formal power as it lacks characteristic which are main features of power. According to Friedrick " Authority is not power, something that accompanies power " it is the reality in men and things which adds to their power.

Ⓓ Rationality :-

This is the main characteristic of Authority. In the word of Friedrick. The who has Authority possesses something that I would describe the capacity for reasoned elaboration for giving convincing reason for what he does or proposes to have other to do.

" Evidently the basis of Authority is logic or reason.

© Accountability :-

The individual or a group of individual who possess Authority are responsible to some higher Authority. In a democratic system 'Accountability' is the most significant characteristic of Authority.

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Q3 (Part A) :- How does a Project Emerge?
Describe its characteristics?

Answer :- A Project is a unique Transient endeavour undertaken to achieve Planned objectives which could be defined in terms of output, outcomes or benefits. A Project is usually deemed to be success if it achieve the objective according to their Acceptance criteria within the an Agreed time scale and budget. Time, Cost, and quality are the building blocks of every Project.

* Time :- Scheduling is a collection of a technique used to develop and present Schedules that show when work will be performed.

(6)

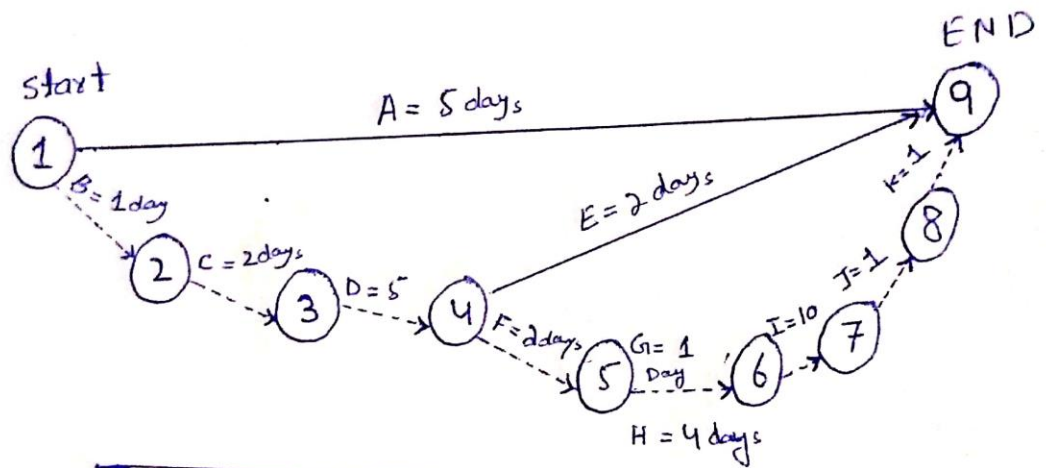
⊛ Characteristic of Project :-

Well defined objective

- Uniqueness (Non Routine Activity)
- Complexity (Demand Team work)
- Life cycle
- Risk uncertainty
- Change (In Response to environment) Non Recurring
- Duration of Activities uncertain
- Completion Deadline.
- Involves Resources optimality
- multidisciplinary and interdependencies.
- Forecasting Definit time limit. Team work.
- Conflict for resources.
- A separate disposable team Performance measurement.

Q 3 (Part B)

Answer :-



Critical Path: B C D F H I J K = 26 days