

Department of Electrical Engineering**Engineering Management and Economics Assignment**

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

Instructor : Dr. Jehanzeb Khan**Time= 5 Days****Marks 30**

Q.1:

Marks 10

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?

- A. 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 _____.

- A. 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

Q1:

Answer:

1. An Art.
2. Effective career planning.
3. All of the above.
4. Top management level.
5. Planning.
6. Organizing.
7. Controlling.
8. Top management level.
9. Interpersonal skills.
10. Effective.
11. Efficient.

Q2:

- 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 requires a range of skills.

- Conceptual skill
- Human skill
- Technical skill
- Diagnostic skill

Conceptual Skill:

Conceptual skills are the ability to see the organization as a whole and the relationship among its parts. Conceptual skill involves the manager's thinking, information-processing and planning abilities. Knowing where one's department fits into the total organization and how the organization fits into the industry, the community, and the broader business and social environment. The ability to think strategically (broad long term view). Conceptual skill is very important for managers at the top. For example, Microsoft reflects the conceptual skill of its chairman, Bill gates.

Human skill:

Human skill is the ability to work with and through other and to work effectively as a group member.

- The ability to motivate coordinates, leads, communicate, and resolve conflicts.
- Allows subordinates to express themselves without fear of ridicule and encourages participation.
- Likes other people and is liked by other.

- Have good judgment for decisions such as hiring and setting company policy.

Technical skill:

Technical skill is the understanding of and proficiency (skill, ability, talent) in the performance of specific tasks. Include mastery of methods, techniques and equipment involved in specific functions such as engineering, manufacturing, finance forecasting and marketing skills. Specialize knowledge, analytical ability, competent use of tools and techniques to solve problems in specific discipline.

Diagnostic skill:

Manager's ability to visualize the most appropriate response. Diagnose and analyze a problem and then developing a solution.

For example high turnover- possible reason -dissatisfaction with pay or not favorable environment or poor interpersonal skill find solution by interviewing of employees.

b) Briefly explain characteristics of authority.

Answer: Characteristics of authority:

1. Authority is vested in organizational position not people. Because of the position that manager hold
2. Authority is accepted by employees: Authority flows top down through the organization's hierarchy; employees comply because they believe that managers have legitimate right to issue orders.
3. Authority flows down the vertical hierarchy: Positions at the top of the hierarchy are vested with more formal authority than are positions at the bottom.
4. Responsibility: is the flip side of authority coin. It is the duty to perform the task or activity an employee has been assigned. When managers have responsibility for task outcomes but little authority, the job is possible but difficult. But when managers have authority exceeding responsibility, they may become tyrants.
5. Accountability: Is the mechanism through which authority and responsibility are brought into alignment. It means that people with authority and responsibility are subject to reporting and justifying task outcomes to those above them in the chain of command. Employees must be aware that they are accountable for a task and accept the responsibility and authority for performing it.
6. Delegation of authority: is the process by which a manager assigns a portion of his total work load to others. Sub ordinates help ease the manager's Burdon. In some instances, a subordinate may have more expertise than a manager. It also helps develop subordinate. Delegation of authority involves three steps, assigning responsibility, giving the authority to do the job and establishing

subordinate's accountability. Problems with delegation are that subordinate well do too well and pose threat to manager advancement, no reward for accepting additional responsibility, other view is that subordinate's satisfactory performance is not a threat but an accomplishment by both (subordinate, did the job, manager trained him).

Q3:

a) **How does a project emerge? Describe its characteristics.**

Answer:

A project is a temporary endeavor undertaken to create a unique product, service or a result.

All projects have characteristics in common that set them apart from other operations.....

- i. Defined start and finish
- ii. Time frame for completion A point where it start a 'time zero' A point where it finishes 'delivery'
The implication is a time scale
- iii. Uniqueness A Unique Need distinguished from day to day operations but potential repetition not barred subject to consideration of special circumstances Can include contingency planning where start date is unknown
- iv. Involvement of several people The project team Those affected by the project (e.g new plant operators) Provision for specific skills and approaches
- v. Limited resources People, materials, money and time all constrained Potential tradeoff between these possible Potential of technology almost limitless
- vi. Sequencing of activities Interdependence of some activities Step by step progress Opportunity for overlapping Need for careful planning of step order.

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.

Marks 5

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

Answer:

