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Department of Electrical Engineering

Engineering Management and Economics

Assignment

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

ID = 13132
Name=Ahmad zaib

Instr: Dr. Jehanzeb Khan

Time= 5 Days

Marks 30

Q.1:

10

Marks

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

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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

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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 |

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Q.1:

- 1 Both science and 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

Q.2

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

Ans=

A Manager's job is complex and multidimensional and requires a range of skills.

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

Conceptual Skill: is 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. General business goals are clearly stated and communicated throughout the company, contributing to Microsoft's leadership reputation and billion dollar revenues. Gates spread his concept for Microsoft by delegating to a cadre of strong managers. Scott Oki, senior vice-president for sales and marketing, pointed out "Each part of the company has a life of its own now, but Bill is the glue that holds it all together".

Many of the responsibilities of top managers- such as decision making, resource allocation, and innovation- require a broad view

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

- The ability to motivate, coordinate, lead, communicate, and resolve conflicts.
- Allows subordinates to express themselves without fear of ridicule and encourages participation.
- Relies on the quality of its people for its success.
- Likes other people and is liked by other.
- Have good judgment for decisions such as hiring and setting company policy.
- He makes employees feel valued and inspired and promote close working relationships that are fun.
- Effective managers are cheer leaders, facilitators, coaches, and nurturers.
- Excellent managers don't take people for granted.
- Measure employees satisfaction using formal questionnaire.
- Tries to increase the frequency, quality and degree of informativeness (news letters etc)
- "Getting things done through people"

Technical skill: is the understanding of and proficiency (skill, ability, talent) in the performance of specific tasks.

- Includes mastery of methods, techniques and equipment involved in specific functions such as engineering, manufacturing, finance forecasting and marketing skills..
- Specialized knowledge , analytical ability, competent use of tools and techniques to solve problems in specific discipline.

Diagnostic skill: Managers 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.

For example in favorable situation– sales increases at higher rate than anticipated causes , low price or greater demand than predicted or high price by a competitor--- diagnostic skill-

b) Briefly explain characteristics of authority.

Characteristics of authority:

- I) **Authority is vested in organizational position not people.** Because of the position that manager hold.
- II) **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.
- III) **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.
- IV) **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.
- V) **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.
- VI) **Delegation of authority:** is the process by which a manager assigns a portion of his total work load to others. Subordinates help ease the manager's Burden. 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 will 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).
- VII) **Decentralization:** The process of systematically delegating of power and authority throughout the organization to middle and lower level managers. Decision making power and authority are delegated as far down the chain of command as possible. The greater the complexity and uncertainty of the environment, the greater is the tendency to decentralize. Successful organizations are usually decentralized.
- VIII) **Centralization:** The process of systematically retaining power and authority in the hands of higher-level managers. Decision making power and authority are with top managers. In times of crises or risk of organization failure, authority may be centralized at the top.

Q.3:

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

Ans=

How does projects emerge - An idea

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- Driven by a need,
- A desire for innovation and creativity
- An addition to a school of thought or a body of knowledge

characteristics of a project / project life cycle.

Components of any project:

A start

A process

An end

and contains resources, costs, people, timescales etc.....constraints!

- Project management is an applied subject
- Effective project management is
 - a mix of past experience,
 - analytical techniques and,
 - a pragmatic approach to the problem in hand.
- There are no theoretical principles that must be followed.
 - However numerous methodologies have been proposed
- A successful outcome to a project cannot be guaranteed but using a structured methodology can reduce the risk of failure.
- A PM uses tools and skill to assess situation at hand and minimise risk of failure

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

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Answer:

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