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SHAMBHUNATH INSTITUTE OF ENGINEERING AND TECHNOLOGY

Subject Code: RAS-601

Subject: Industrial Management

B.Tech. 6th SEMESTER

FIRST SESSIONAL EXAMINATION, EVEN SEMESTER, (2019-2020)

Branch: (CS, EE, EN, EC, CE, ME)

Time – 1hr 30 min

Maximum Marks – 30

NOTE: (Attempt all Sections)

SECTION – A

1. Attempt all questions in brief.

(1*5 = 5)

Q N	QUESTION	Marks	CO	BL
a.	Define Industry. An industry is a group of companies that are related based on their primary business activities.	1	1	1
b.	Define Management. Management is a set of principles relating to the functions of planning, organizing, directing and controlling, and the application of these principles in harnessing physical, financial, human and informational resources efficiently and effectively to achieve organizational goals.	1	2	1
c.	Describe meaning of resource. a stock or supply of money, materials, staff, and other assets that can be drawn on by a person or organization in order to function effectively.	1	1	1
d.	Define productivity index. The productivity index is defined as the flow rate per unit pressure drop and serves as an indication of the production potential of a well.	1	1	1
e.	Describe Efficiency. Efficiency is the (often measurable) ability to avoid wasting materials, energy, efforts, money, and time in doing something or in producing a desired result.	1	1	1

SECTION - B

2. Attempt any TWO of the following.

(2*5 = 10)

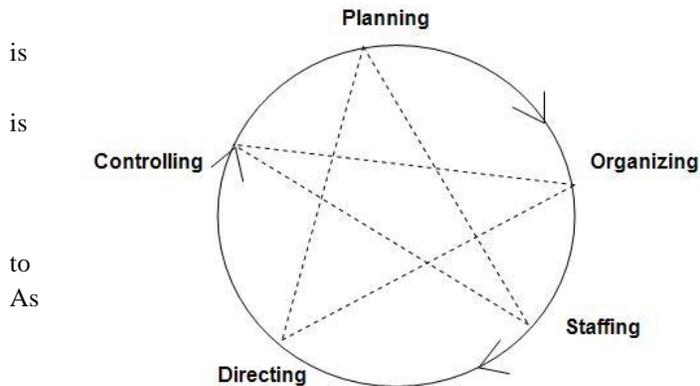
Q N	QUESTION	Marks	CO	BL
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<p>a.</p>	<p>Explain Concept and scope of Industrial management.</p> <p>“Industrial management - the branch of engineering that deals with the creation and management of systems that integrate people and materials and energy in productive ways.”</p> <p>SCOPE OF INDUSTRIAL MANAGEMENT</p> <p>(1) Activities relating to industrial system designing</p> <ul style="list-style-type: none"> (i) Human factor (ii) Research and development activities <p>(2) Activities relating to analysis and control of industrial system</p> <ul style="list-style-type: none"> (i) Production planning (ii) Production control (iii) Quality control (iv) Coordination with other departments (v) Dependent services and departments 	<p>5</p>	<p>1</p>	<p>2</p>
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Explain various functions of management.

Five Functions of Management

Management has been described as a social process involving responsibility for economical and effective planning & regulation of operation of an enterprise in the fulfillment of given purposes. It is a dynamic process consisting of various elements and activities. There are more functions of management than the ones listed below, but these are considered the most important.



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1. Planning: This is the core function of management because it is the foundation of the other four areas. Planning involves mapping out exactly how to achieve a specific goal. As a manager, he or she will need to map out detailed actions; **what** to do, **when** to do it and **how** it should be done. Think of it as bridging a gap for where we currently are and where we want to be.

b.

- 2. Organizing:** This function is also known to be the backbone of management. Immediately after planning, the manager needs to organize the team according to plan. This involves organizing all of the **company's resources** to implement a course of action and determining the organizational structure of the group. And to figure out the best way to accomplish the tasks needed to reach their goals.
- 3. Staffing:** The purpose of staffing is to control all recruitment and personnel needs of the organization. After management decides what they need, they may decide to hire more employees in a certain department. It is also responsible for training and development, promotions, transfers, and firing.
- 4. Directing:** Supervision, motivation, leadership, and communication are all involved in the directing function. Management needs to be able to oversee and influence the behavior of the staff and to achieve the company's goals, whether that means assisting or motivating them.
- 5. Controlling:** The last function of management deals with monitoring the company's progress and ensuring that all of the other functions are operating efficiently. Since this is the last stage, there are bound to be some irregularities and complexity within the organization.

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c.	<p>Describe Fayol's principles of management.</p> <ol style="list-style-type: none"> 1. Division of Work: According to this principle the whole work is divided into small tasks. The specialization of the workforce according to the skills of a person, creating specific personal and professional development within the labour force and therefore increasing productivity; leads to specialization which increases the efficiency of labour. 2. Authority and Responsibility: This is the issue of commands followed by responsibility for their consequences. Authority means the right of a superior to give enhances order to his subordinates; responsibility means obligation for performance. 3. Discipline: It is obedience, proper conduct in relation to others, respect of authority, etc. It is essential for the smooth functioning of all organizations. 4. Unity of Command: This principle states that each subordinate should receive orders and be accountable to one and only one superior. If an employee receives orders from more than one superior, it is likely to create confusion and conflict. 5. Unity of Direction: All related activities should be put under one group, there should be one plan of action for them, and they should be under the control of one manager. 6. Subordination of Individual Interest to Mutual Interest: The management must put aside personal considerations and put company objectives firstly. 7. Remuneration: Workers must be paid sufficiently as this is a chief motivation of employees and therefore greatly influences productivity. 8. The Degree of Centralization: The amount of power wielded with the central management depends on company size. Centralization implies the concentration of decision making authority at the top management. 9. Line of Authority/Scalar Chain: This refers to the chain of superiors ranging from top management to the lowest rank. The principle suggests that there should be a clear line of authority from top to bottom linking all managers at all levels. 10. Order: Social order ensures the fluid operation of a company through authoritative procedure. 11. Equity: Employees must be treated kindly, and justice must be enacted to ensure a just workplace. 12. Stability of Tenure of Personnel: Stability of tenure of personnel is a principle stating that in order for an organization to run smoothly, personnel (especially managerial personnel) must not frequently enter and exit the organization. 13. Initiative: Using the initiative of employees can add strength and new ideas to an organization. Initiative on the part of employees is a source of strength for organization because it provides new and better ideas. Employees are likely to take greater interest in the functioning of the organization. 14. Esprit de Corps: This refers to the need of managers to ensure and develop morale in the workplace; individually and communally. Team spirit helps develop an atmosphere of mutual trust and understanding. Team spirit helps to finish the task . 	5	2	2
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d.	<p>Describe various application of Industrial management.</p> <p>Applications of industrial management are summarized in the following departments of industry:</p> <ol style="list-style-type: none"> 1. Managing and arranging the location of facilities 2. Design of Plant layouts 3. Management of material handling systems 4. Supply chain management. 5. Production and Planning control 6. Quality control & Total quality management 7. Inventory & Materials management 8. Maintenance management 9. Operations management 10. Labor management 	5	1	2
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SECTION - C
(1*5 = 5)

3. Attempt any ONE part of the following:

Q N	QUESTION	Marks	CO	BL
a.	<p>Differentiate between continuous and intermittent production system.</p> <p>Continuous Production System</p> <ol style="list-style-type: none"> (i). Mass Production (ii). Process Production <ol style="list-style-type: none"> a. Analytical Production b. Synthetic Production (iii). Assembly Line <p>Intermittent Production System</p> <ol style="list-style-type: none"> (i). Job Production (ii). Batch Production 	5	1	2

<p>b.</p>	<p>Describe joint stock ownership with a suitable example.</p> <p>The simplest way to describe a joint stock company is that it is a business organisation that is owned jointly by all its shareholders. All the shareholders own a certain amount of stock in the company, which is represented by their shares.</p> <p>Features of a Joint Stock Company</p> <p>1] Artificial Legal Person</p> <p>A company is a legal entity that has been created by the statutes of law. Like a natural person, it can do certain things, like own property in its name, enter into a contract, borrow and lend money, sue or be sued, etc. It has also been granted certain rights by the law which it enjoys through its board of directors.</p> <p>2] Separate Legal Entity</p> <p>Unlike a proprietorship or partnership, the legal identity of a company and its members are separate. As soon as the joint stock company is incorporated it has its own distinct legal identity. So a member of the company is not liable for the company. And similarly, the company will not depend on any of its members for any business activities.</p> <p>3] Incorporation</p> <p>For a company to be recognized as a separate legal entity and for it to come into existence, it has to be incorporated. Not registering a joint stock company is not an option. Without incorporation, a company simply does not exist.</p> <p>4] Perpetual Succession</p> <p>The joint stock company is born out of the law, so the only way for the company to end is by the functioning of law. So the life of a company is in no way related to the life of its members. Members or shareholders of a company keep changing, but this does not affect the company's life.</p> <p>5] Limited Liability</p> <p>This is one of the major points of difference between a company and a sole proprietorship and partnership. The liability of the shareholders of a company is limited. The personal assets of a member cannot be liquidated to repay the debts of a company.</p> <p>6] Common Seal</p> <p>A company is an artificial person. So its day-to-day functions are conducted by the board of directors. So when a company enters any contract or signs an agreement, the approval is indicated via a common seal. A common seal is engraved seal with the company's name on it.</p> <p>So no document is legally binding on the company until and unless it has a common seal along with the signatures of the directors.</p> <p>7] Transferability of Shares</p> <p>In a joint stock company, the ownership is divided into transferable units known as shares. In case of a public company the shares can be transferred freely, there are almost no restrictions. And in a private company, there are some restrictions, but the transfer cannot be prohibited.</p>	<p>5</p>	<p>2</p>	<p>2</p>
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4. Attempt any ONE part of the following:

(1*5 = 5)

Q N	QUESTION	Marks	CO	BL
a.	<p>Explain any one method to calculate productivity.</p> <p>Productivity as a measure of effectiveness (doing the right thing efficiently), which is outcome-oriented rather than output-oriented. Productivity may also be defined as an index that measures output (goods and services) relative to the input (labour, materials, energy, etc., used to produce the output). As such, it can be expressed as:</p> <p style="text-align: center;">Productivity = Output/ Input</p> <p>There are three major types of productivity measures:</p> <p>(1) Partial Productivity</p> <p>(2) Total Factor Productivity</p> <p>(3) Total productivity</p> <p>(1) Partial-Factor Productivity</p> <p>The standard definition of productivity is actually what is known as a partial factor measure of productivity, in the sense that it only considers a single input in the ratio. The formula then for partial-factor productivity would be the ratio of total output to a single input.</p> <p>Other partial factor measure options could appear as output/labour, output/machine, output/capital, or output/energy. It is the ratio of output to one class of input. For example, labour productivity (the ratio of output to labour input) is a partial productivity measure.</p> <p>Advantages</p> <ol style="list-style-type: none"> 1) Easy to understand.Easy to obtain the data. 2) Easy to compute the productivity indices 3) Some partial productivity indicator data is available industry wide. 4) Good diagnostic tools to pinpoint areas for productivity improvement, if used along with total productivity indicators. <p>Limitations</p> <ol style="list-style-type: none"> 1) If used alone, can be very misleading and may lead to costly mistakes. 2) Do not have the ability to explain overall cost increases. 3) Tend to shift the blame to the wrong areas of management control. 4) Profit control through partial productivity measures can be a hit- and-miss approach. 	5	1	2

b.	<p>Describe scope of human resource management.</p> <p style="text-align: center;">Fig. 1.1: Scope of HRM</p>	5	2	2
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5. Attempt any ONE part of the following:

(1*5 = 5)

Q N	QUESTION	Marks	CO	BL
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<p>a.</p>	<p>Define ownership.Elaborate partnership ownership.</p> <p>To start a business enterprise the most important thing required is the capital if the capital is provided by single individual, it is known as individual ownership, if it is supplied by two or more persons, it refers to partnership organisation. If it is provided by many persons in the form of show to an institute with a legal entity, it is called a joint stock company.</p> <p>Partnership</p> <p>When the capital required financing the business become too big or when the size of the enterprises grows, a single person may wish to associate himself with more persons either for male capital or for some skills and knowledge to run the business. A partnership business is owned by two or more person (up to 20) who shares the powers, responsibilities and profit according to an agreement reached among them.</p> <p>Partnership can be formed there verbally or written agreement, but to avoid any problems at a later stage, it is better to have a written agreement. The written agreement in called partnership deed, end has to be registered under the Indian partnership Act, 1932. Thus a partnership deed enjoys legal status and helps is setting day disputes in future between the partners.</p> <p>Types of partners:</p> <p>(i) Active or managing partners:</p> <p>They take part in the management of activities and formulation of policies. Some tines they get salaries in addition to the normal profits as partakers.</p> <p>(ii) Sleeping or silent partners:</p> <p>They do not take active part in the business. They simply get their share of profit from the firm according to their investment. But they are liable fare all the company debts.</p> <p>(iii) Nominal Partners:</p> <p>They lend their name to enhance company’s repetition. They do not invest money and do not take any active part in the management but enjoy a small predefined share of the profit. They are not liable for company debts.</p> <p>Advantages:</p> <ol style="list-style-type: none"> 1. Formation is easy. Registration is not compulsory. 2. Adequate capital is available for investment and expansion programs. 3. Work is divided and responsibility is reduced among partners. 4. There is less possibility of errors in decisions. 5. Persons having different abilities and skills may come together as partners giving specialization. <p>Disadvantages:</p> <ol style="list-style-type: none"> 1. Each partner has unlimited liability. 2. It is difficult to maintain the secrets of the company. 3. Possibility of misunderstanding between partners is high. 	<p>5</p>	<p>1</p>	<p>2</p>
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<p>b.</p>	<p>Explain various affecting factors of productivity.</p> <p>FACTORS AFFECTING PRODUCTIVITY</p> <p>There is quite a variety of factors which can affect productivity, both positively and negatively. These include:</p> <ol style="list-style-type: none"> 1. capital investments in production, technology, equipment&facilities 2. economies of scale 3. workforce knowledge and skill resulting from training and experience 4. technological changes; work methods 5. procedures; systems 6. quality of products&processes 7. quality of management 8. legislative and regulatory environment 9. general levels of education 10. social environment 11. geographic factors <p>The first 6 factors are highly controllable at the company or project level. Numbers 7 and 8 are marginally controllable, at best. Numbers 9 and 10 are controllable only at the national level, and 11 is uncontrollable.</p>	<p>5</p>	<p>1</p>	<p>2</p>
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