Reg. No. \_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov / Dec – 2019**

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| **Code : 18MS3009** |  | **Duration :** | **3hrs** |
| **Sub. Name : PRODUCTION AND OPERATIONS MANAGEMENT** |  | **Max. Marks:** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Explain the historical contribution with reference to production management. | CO1 | 10 |
| b. | Discuss different types of Production Systems with suitable examples. | CO1 | 10 |
| **(OR)** | | | | |
| 2. | a. | Explain the functions and responsibilities of a Production Manager. | CO1 | 10 |
| b. | Discuss which type of production is suitable for manufacturing various ranges of motors in an industry. | CO1 | 10 |
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| 3. | a. | What are the methods of evaluating location decision? Explain with suitable example. | CO1 | 10 |
| b. | Discuss “A city location is preferable for small plants. Suburban locations are best suited for medium”. | CO1 | 10 |
| **(OR)** | | | | |
| 4. | a. | What is the interrelationship among the functional areas: production planning and control, materials management, maintenance management and quality management? | CO2 | 10 |
| b. | What are the factors affecting Capacity Planning? Also write the steps in effective Capacity Planning. | CO2 | 10 |
|  | | | | |
| 5. | a. | Explain the various strategies of aggregate planning. | CO2 | 10 |
| b. | The forecast of a group of items reproduced below:   |  |  |  | | --- | --- | --- | | Quarter | Demand | Cumulative Demand | | 1  2  3  4  5  6  7  8 | 270  220  470  670  450  270  200  370 | 270  490  960  1630  2080  2350  2550  2920 |   Suppose that the firm estimates that it costs Rs.150 per unit to increase the production rate, Rs.200 per unit to decrease the production rate, Rs.50 per unit per quarter to carry the items on inventory and Rs.100 per unit if subcontracted. Compare the cost incurred if pure strategies are followed. | CO2 | 10 |
| **(OR)** | | | | |
| 6. | a. | What are the types of model of inventory system? Explain them in detail. | CO2 | 10 |
| b. | The demand for an item is 18,000 per year. Its production rate is 3000 per month. The carrying cost is Rs.0.15/unit/month and the set-up cost is Rs.500.00 per set-up. The shortage cost is Rs.20.00 per unit per year. Find the various parameters of the inventory system. | CO2 | 10 |
|  | | | | |
| 7. | a. | Explain the fundamental concepts of JIT. | CO2 | 10 |
| b. | Explain in detail about KANBAN system with schematic diagram and its uses. | CO2 | 10 |
| **(OR)** | | | | |
| 8. | a. | Briefly explain the objectives of ISO 9000 and explain the steps in obtaining ISO registration. | CO3 | 10 |
| b. | What are the seven types of QC Tools and explain in detail. | CO3 | 10 |
| **Compulsory**: | | | | |
| 9. |  | **Case Study:**  **Total quality management and customer satisfaction.**  Quality management ([QM](http://www.answers.com/topic/qm)), also called total quality management ([TQM](http://www.answers.com/topic/tqm)), evolved from many different management practices and improvement processes. Quality management is not specific to managing people, but rather is related to improving the quality of goods and services that are produced in order to satisfy customer demands. Quality management [permeates](http://www.answers.com/topic/permeate) the entire organization as it is being implemented.  TQM has its roots in the quality movement that has made Japan such a strong force in the world economy. The Japanese philosophy of quality initially emphasized product and performance and only later shifted concern to customer [satisfaction](http://www.answers.com/topic/satisfaction).  The quality improvement movement began in both the United States and Japan before World War II. Throughout the war, Americans continued to improve concepts related to manufacturing productivity. After the war, the Japanese pursued the idea of quality improvement. It was W. Edwards Deming, an American, who helped the Japanese focus on their [fixation](http://www.answers.com/topic/fixation) with quality.  Rather than trying to inspect the quality of products and services after they have been completed, TQM instills a philosophy of doing the job correctly the first time. It all sounds simple, but implementing the process requires an organizational culture and climate that are often alien and intimidating. Changes that must occur in the organization are so significant that it takes time and [patience](http://www.answers.com/topic/patience) to complete the process. Just as the process does not occur overnight, the results may not be seen for a long period of time. Some experts say that it takes up to ten years to fully realize the results of implementing quality management. |  |  |
|  |  | Discuss how quality management is useful for production as well as customer satisfaction. | CO3 | 20 |