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Code No. : 41423 S

**VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD**  
**B.E. (Mech. Engg.) IV Year I-Semester Supplementary Examinations, May-2019**

**Production and Operations Management**

Time: 3 hours

Max. Marks: 70

*Note: Answer ALL questions in Part-A and any FIVE from Part-B*

**Part-A (10 × 2 = 20 Marks)**

1. What are the factors to be considered while choosing the right production system?
2. Define method study and mention its benefits.
3. Write a brief note on Delphi forecasting technique.
4. Differentiate between simple and multiple regression.
5. List out various objectives of aggregate planning.
6. Write salient features of MRP2.
7. What is the necessity to have inventory control system for a manufacturing industry?
8. Briefly explain VED analysis with relevant examples.
9. Define critical path and float.
10. Differentiate between PERT and CPM.

**Part-B (5 × 10 = 50 Marks)**

11. a) Draw break even chart and mention its significant aspects. [5]  
b) The observed time of gear cutting operation is 40 minutes, calculate standard time with 90% rating factor and 20% allowances. [5]
12. a) Define forecasting and justify the necessity to have accuracy in the forecasting information. [5]  
b) List out and explain various forecast errors. [5]
13. a) Define master production schedule and how it differ with aggregate planning? [5]  
b) Why it is essential to have an effective MRP system and how it is achieved? [5]
14. a) Define Economic Order quantity and calculate EOQ, Number of orders per year and time between two orders for the following data. [6]  
Annual demand = 4000 units  
Carrying cost = Rs. 2 per unit per year  
Ordering cost = Rs. 40 per order  
b) Explain the concept and procedure of ABC analysis. [4]
15. a) Define project and mention prerequisites of project management. [4]  
b) Draw network diagram and find critical path and duration of the project with the following data. [6]

Activity	1-2	1-3	2-3	2-4	4-5	3-5	5-6
Duration (days)	5	3	8	4	7	5	6
16. a) What is work measurement and why it is used? [5]  
b) Differentiate between simple and weighted moving averages with relevant examples. [5]
17. Answer any *two* of the following: [5]
  - a) Costs associated with aggregate planning [5]
  - b) Production model with shortages [5]
  - c) Fulkerson's rules. [5]