



INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad - 500 043

MECHANICAL ENGINEERING

TUTORIAL QUESTION BANK

Course Title	PRODUCTION PLANNING AND CONTROL				
Course Code	AME518				
Programme	B.Tech				
Semester	VIII	ME			
Course Type	Core				
Regulation	IARE - R16				
Course Structure	Theory			Practical	
	Lectures	Tutorials	Credits	Laboratory	Credits
	3	1	4	-	-
Chief Coordinator	Mr. V. Mahidhar Reddy, Assistant Professor, ME				
Course Faculty	Mr. V. Mahidhar Reddy, Assistant Professor, ME				

COURSE OBJECTIVES :

The course should enable the students to:	
I	Understand the PPC function in industrial manufacturing scenario.
II	Apply forecasting techniques for different types of products.
III	Knowledge in optimal inventory control and capacity planning.

COURSE OUTCOMES (COs):

- CO 1 : Understanding and appreciation of the principles and applications relevant to the planning, design, and operations of manufacturing/service firms
- CO 2 : Develop skills necessary to effectively analyze and synthesize the many inter-relationships inherent in complex socio-economic productive systems.
- CO 3 : Reinforce analytical skills already learned, and build on these skills to further increase your "portfolio" of useful analytical tools for operations tasks.
- CO 4: Understand how Enterprise Resource Planning and MRPII systems are used in managing operations
- CO 5 : Increase the knowledge, and broaden the perspective of the world in which you will contribute your talents and leadership in business operations.

COURSE LEARNING OUTCOMES (CLOs):

Students, who complete the course, will have demonstrated the ability to do the following:

CLO Code	CLO's	At the end of the course, the student will have the ability to:	PO's Mapped	Strength of Mapping
AME518.01	CLO 1	Understand the core features of the operations	PO 1	3
AME518.02	CLO 2	Understand production management function at the operational and strategic levels	PO 2	2
AME518.03	CLO 3	specifically the relationships between people	PO 1	3
AME518.04	CLO 4	Evaluate operational and strategic levels	PO 1	3
AME518.05	CLO 5	Solve problems on operational and strategic management	PO 2	2
AME518.06	CLO 6	Production management basics and its history	PO 2	2
AME518.07	CLO 7	Key issues on market-driven systems and global competition	PO 2	2
AME518.08	CLO 8	Classification of production systems, and their definitions	PO 2	2
AME518.09	CLO 9	Classification of planning and control problems, and their definitions	PO 4	1
AME518.10	CLO 10	Problem solving procedure	PO 4	1
AME518.11	CLO 11	Demand forecasting and market analysis	PO 2	2
AME518.12	CLO 12	Qualitative approaches to forecasting	PO 2	2
AME518.13	CLO 13	A variety of quantitative forecasting techniques including the use of computer tools	PO 1	3
AME518.14	CLO 14	Decomposition of data into its components	PO 1	3
AME518.15	CLO 15	The systems perspective to production planning problems and to integrate different production planning activities	PO 1	3
AME518.16	CLO 16	Formulation of aggregate planning problems; their objectives, constraints and applicable solution techniques	PO 1, PO 2	3
AME518.17	CLO 17	Surveying, gathering and analysis of data for planning purposes	PO 1, PO 2	3
AME518.18	CLO 18	Solving basic production planning problems	PO 1, PO 2	3
AME518.19	CLO 19	Solving basic inventory management problems, Importance of accuracy in estimating market share, demand, relevant costs and all requirements and the sensitivity of results to these values	PO 1,	3

UNIT 1				
PART – A (SHORT ANSWER QUESTIONS)				
S. No	Question	Blooms Taxonomy Level	Course Outcome (CO)	Course Learning Outcome (CLO)
1	Define product Analysis.	Understand	CO 1	AME518.01
2	Define Planning.	Remember	CO 1	AME518.01

3	Define PPC.	Understand	CO 1	AME518.01
4	Give details about the Production planning and Control.	Remember	CO 1	AME518.02
5	Discuss about needs for PPC.	Understand	CO 1	AME518.02
6	Define product Design.	Remember	CO 1	AME518.01
7	Define miniaturation.	Remember	CO 1	AME518.01
8	Define product analysis.	Understand	CO 1	AME518.01
9	Define margin of safety.	Remember	CO 1	AME518.01
10	Discuss about requirements of good design.	Understand	CO 1	AME518.01
11	Discuss about problems in production management.	Remember	CO 1	AME518.01
12	Define production.	Remember	CO 1	AME518.01
13	Define planning.	Understand	CO 1	AME518.01
14	Define control.	Remember	CO 1	AME518.01
15	Define scheduling.	Understand	CO1	AME518.01
16	Define time estimating.	Remember	CO 1	AME518.01
17	Define production budget.	Understand	CO 1	AME518.01
18	Write a short note on Action Phase.	Understand	CO 1	AME518.02
19	Write a short note on Control Phase.	Remember	CO 1	AME518.02
20	Write a short note on Tool Control.	Understand	CO 1	AME518.02

PART – B (LONG ANSWER QUESTIONS)

1	List out the planning functions and controlling functions separately.	Understand	CO 1	AME518.02
2	Differentiate between job shop, batch type and continuous production systems.	Understand	CO 1	AME518.02
3	Classify the production systems. Mention characteristics of each of those systems.	Remember	CO 1	AME518.02
4	What are the effects of PPC in real time industrial environment?	Understand	CO 1	AME518.02
5	Compare various types of production systems.	Remember	CO 1	AME518.03
6	Discuss the applications of computers in production control.	Understand	CO 1	AME518.03
7	Mention the nature of PPC function in those respective production system	Understand	CO 1	AME518.03
8	Explain the objectives of PPC.	Understand	CO 1	AME518.03
9	Classify the production systems. Mention characteristics of each of those systems.	Remember	CO 1	AME518.03
10	What are the effects of PPC in real time service sector?	Understand	CO 1	AME518.04
11	Explain characteristics of Intermittent production systems	Understand	CO 1	AME518.04
12	Explain characteristics of Continuous production systems.	Understand	CO 1	AME518.04
13	Explain the principals of PPC.	Understand	CO 1	AME518.04
14	Write short notes on internal organizations department.	Understand	CO 1	AME518.04
15	Explain the different types of production system.	Understand	CO 1	AME518.04
16	Define Production Planning and Control and its objectives	Understand	CO 1	AME518.04
17	Analyze the importance of each of the functions of production planning and control.	Remember	CO 1	AME518.03
18	Discuss the position of motion and time study in the organizational Structure of a manufacturing firm.	Understand	CO 1	AME518.03
19	Write the principles of sound production control systems.	Understand	CO 1	AME518.03
20	Describe continuous production. How does it differ from job order production.	Remember	CO 1	AME518.03

UNIT II

PART A (SHORT ANSWER QUESTIONS)

1	Define sales forecasting	Understand	CO 2	AME518.05
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2	Define short term forecasting	Remember	CO 2	AME518.06
3	Define long term forecasting	Understand	CO 2	AME518.07
4	State advantages of short term forecasting	Remember	CO 2	AME518.08
5	Write a short note on least square method.	Understand	CO 2	AME518.08
6	State disadvantages of short term forecasting	Remember	CO 2	AME518.09
7	State advantages of long term forecasting	Remember	CO 2	AME518.07
8	Write a short note on exponential smoothing method.	Understand	CO 2	AME518.05
9	State disadvantages of long term forecasting	Remember	CO 2	AME518.06
10	Write a short note on analytical forecasting method.	Understand	CO 2	AME518.05
11	Write a short note on the importance of sales forecasting.	Remember	CO 2	AME518.06
12	Write a short note on statistical forecasting method.	Remember	CO 2	AME518.07
13	Write the objectives of forecasting.	Understand	CO 2	AME518.08
14	Write a short note on market potential.	Remember	CO 2	AME518.08
15	List the methods of sales forecasting.	Understand	CO 2	AME518.09
16	Discuss about limitations of least square method.	Remember	CO 2	AME518.07
17	Write the advantages of exponential smoothing method.	Understand	CO 2	AME518.05
18	Discuss about advantages of least square method.	Understand	CO 2	AME518.06
19	Write the limitations of exponential smoothing method.	Remember	CO 2	AME518.05
20	Discuss about different types of forecasting.	Understand	CO 2	AME518.06
PART B (LONG ANSWER QUESTIONS)				
1	Explain different types of forecasting.	Understand	CO 2	AME518.05
2	Write short notes on importance of forecasting.	Understand	CO 2	AME518.06
3	Explain the general principles of forecasting techniques.	Understand	CO 2	AME518.07
4	Define forecasting and its uses.	Understand	CO 2	AME518.08
5	Discuss about objectives of forecasting.	Understand	CO 2	AME518.08
6	Explain the process of sales forecasting.	Understand	CO 2	AME518.09
7	Discuss about qualitative methods of forecasting .	Remember	CO 2	AME518.07
8	Discuss about Quantitative methods of forecasting.	Understand	CO 2	AME518.05
9	Derive expression for smoothing constant.	Remember	CO 2	AME518.06
10	Discuss about effects of smoothing constant on the quality of forecast.	Understand	CO 2	AME518.07
11	Show that in exponential smoothing method, Weightage to the past data declines exponentially.	Understand	CO 2	AME518.08
12	Explain exponential smoothing method of forecasting	Remember	CO 2	AME518.08
13	Explain the following terms a. Qualitative methods and b. Quantitative methods.	Understand	CO 2	AME518.09
14	Explain exponential smoothing method of forecasting. Also Define forecasting and its uses.	Remember	CO 2	AME518.05
15	Describe jury executive opinion method of sales forecasting.	Understand	CO 2	AME518.06
16	Name and describe the various factors affecting sales forecasting.	Remember	CO 2	AME518.07
17	Describe sales force composite method in sales forecasting.	Understand	CO 2	AME518.08
18	Describe moving average method in sales forecasting.	Remember	CO 2	AME518.08
19	a) Name the various methods of sales forecasting and describe any two of them with their advantages and limitations b) Explain analytical method.	Understand	CO 2	AME518.09
20	Describe survey of buyers' intention method in sales forecasting.	Remember	CO 2	AME518.07
PART C (ANALYTICAL QUESTIONS)				
1	A XYZ television supplier found a demand of 200 sets in July, 225 sets in August & 245 sets in September. Find the demand forecast for the month of October using simple average method. The average demand for the month of October	Apply	CO 2	AME518.05

2	<p>A XYZ refrigerator supplier has experienced the following demand for refrigerator during past five months.</p> <table border="1" data-bbox="368 275 805 535"> <thead> <tr> <th>Month</th> <th>Demand</th> </tr> </thead> <tbody> <tr> <td>February</td> <td>20</td> </tr> <tr> <td>March</td> <td>30</td> </tr> <tr> <td>April</td> <td>40</td> </tr> <tr> <td>May</td> <td>60</td> </tr> <tr> <td>June</td> <td>45</td> </tr> </tbody> </table> <p>Find out the demand forecast for the month of July using five-period moving average & three-period moving average using simple moving average method.</p>	Month	Demand	February	20	March	30	April	40	May	60	June	45	Apply	CO 2	AME518.06
Month	Demand															
February	20															
March	30															
April	40															
May	60															
June	45															
3	<p>The manager of a restaurant wants to make decision on inventory and overall cost. He wants to forecast demand for some of the items based on weighted moving average method. For the past three months he experienced a demand for pizzas as follows:</p> <table border="1" data-bbox="392 817 828 1061"> <thead> <tr> <th>Month</th> <th>Demand</th> </tr> </thead> <tbody> <tr> <td>October</td> <td>400</td> </tr> <tr> <td>November</td> <td>480</td> </tr> <tr> <td>December</td> <td>550</td> </tr> </tbody> </table> <p>Find the demand for the month of January by assuming suitable weights to demand data.</p>	Month	Demand	October	400	November	480	December	550	Apply	CO 2	AME518.05				
Month	Demand															
October	400															
November	480															
December	550															
4	<p>One of the two wheeler manufacturing company experienced irregular but usually increasing demand for three products. The demand was found to be 420 bikes for June and 440 bikes for July. They use a forecasting method which takes average of past year to forecast future demand. Using the simple average method demand forecast for June is found as 320 bikes (Use a smoothing coefficient 0.7 to weight the recent demand most heavily) and find the demand forecast for August.</p>	Apply	CO 2	AME518.06												

5	<p>Farewell Corporation manufactures Integrated Circuit boards(I.C board) for electronics devices. The planning department knows that the sale of their client goods depends on how much they spend on advertising, on account of which they receive in advance of expenditure. The planning department wishes to find out the relationship between their clients advertising and sales, so as to find demand for I.C board.</p> <p>The money spend by the client on advertising and sales (in dollar) is given for different periods in following table :</p> <table border="1"> <thead> <tr> <th></th> <th>Advertising (Xt)</th> <th>Sales (Dt)</th> <th></th> <th></th> <th></th> </tr> <tr> <th>Period(t)</th> <th></th> <th></th> <th>Dt²</th> <th>Xt²</th> <th>XtDt</th> </tr> </thead> <tbody> <tr> <td></td> <td>\$(1,00,000)</td> <td>\$(1,000.000)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>1</td> <td>20</td> <td>6</td> <td>36</td> <td>400</td> <td>120</td> </tr> <tr> <td>2</td> <td>25</td> <td>8</td> <td>64</td> <td>625</td> <td>200</td> </tr> <tr> <td>3</td> <td>15</td> <td>7</td> <td>49</td> <td>225</td> <td>105</td> </tr> <tr> <td>4</td> <td>18</td> <td>7</td> <td>49</td> <td>324</td> <td>126</td> </tr> <tr> <td>5</td> <td>22</td> <td>8</td> <td>64</td> <td>484</td> <td>176</td> </tr> <tr> <td>6</td> <td>25</td> <td>9</td> <td>81</td> <td>625</td> <td>225</td> </tr> <tr> <td>7</td> <td>27</td> <td>10</td> <td>100</td> <td>729</td> <td>270</td> </tr> <tr> <td>8</td> <td>23</td> <td>7</td> <td>49</td> <td>529</td> <td>161</td> </tr> <tr> <td>9</td> <td>16</td> <td>6</td> <td>36</td> <td>256</td> <td>96</td> </tr> <tr> <td>10</td> <td>20</td> <td>8</td> <td>64</td> <td>400</td> <td>120</td> </tr> <tr> <td></td> <td>211</td> <td>76</td> <td>592</td> <td>4597</td> <td>1599</td> </tr> </tbody> </table>		Advertising (Xt)	Sales (Dt)				Period(t)			Dt ²	Xt ²	XtDt		\$(1,00,000)	\$(1,000.000)				1	20	6	36	400	120	2	25	8	64	625	200	3	15	7	49	225	105	4	18	7	49	324	126	5	22	8	64	484	176	6	25	9	81	625	225	7	27	10	100	729	270	8	23	7	49	529	161	9	16	6	36	256	96	10	20	8	64	400	120		211	76	592	4597	1599	Apply	CO 2	AME518.05
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UNIT III

PART A (SHORT ANSWER QUESTIONS)

1	Define Inventory.	Understand	CO 3	AME518.10
2	List various types of inventory.	Remember	CO 3	AME518.10
3	Explain why inventory should be maintained.	Understand	CO 3	AME518.11
4	Discuss about safety stock.	Remember	CO 3	AME518.12
5	Write a short note on direct inventory.	Understand	CO 3	AME518.13
6	State indirect inventory.	Remember	CO 3	AME518.12
7	Discuss about lead time.	Remember	CO 3	AME518.12
8	Define reorder point.	Understand	CO 3	AME518.13
9	Write a short note on order quantity.	Remember	CO 3	AME518.12
10	Write a short note on economic order quantity.	Understand	CO 3	AME518.12
11				
11	State formula for economic order quantity.	Remember	CO 3	AME518.10
12	Explain why safety stock is needed.	Remember	CO 3	AME518.10
13	Discuss about types of inventory models.	Understand	CO 3	AME518.11
14	Discuss about characteristics of two bin system.	Remember	CO 3	AME518.12
15	Write a short note on tool control system.	Understand	CO 3	AME518.13

16	Define periodic inventory ordering system.	Remember	CO 3	AME518.12
17	Write a short note on purchase cost.	Understand	CO 3	AME518.12
18	Define ordering cost.	Understand	CO 3	AME518.13
19	Write a short note on carrying cost.	Remember	CO 3	AME518.12
20	Define stock out cost.	Understand	CO 3	AME518.12
PART B (LONG ANSWER QUESTIONS)				
1	How do you classify inventories into A class, B class and C class items.	Understand	CO 3	AME518.10
2	Mention the control procedures are to be exercised on A class; B class and C class items.	Understand	CO 3	AME518.10
3	Derive the Wilson EOQ formula	Remember	CO 3	AME518.11
4	Explain various costs associated with inventory	Understand	CO 3	AME518.12
5	Explain the VED analysis	Remember	CO 3	AME518.13
6	Explain in detail about P-System	Understand	CO 3	AME518.12
7	Explain in detail about Q-System	Remember	CO 3	AME518.12
8	Mention the control procedure is to be exercised on A class, B class and C class items.	Understand	CO 3	AME518.13
9	Explain the procedure involved in carrying ABC analysis	Understand	CO 3	AME518.12
10	What are short comings of ABC classification?	Understand	CO 3	AME518.12
11	Explain the effect of demand on Inventories.	Understand	CO 3	AME518.10
12	Explain in brief Reorder Quantity.	Understand	CO 3	AME518.10
13	Explain various functions of inventory.	Understand	CO 3	AME518.11
14	Describe the EOQ problem with one price break.	Understand	CO 3	AME518.12
15	Describe the various re ordering systems with their advantages and limitations.	Remember	CO 3	AME518.13
16	Describe in detail ABC analysis. State its advantages, limitations and applications.	Understand	CO 3	AME518.12
17	Describe briefly the ABC, HML and VED analysis of inventory control.	Understand	CO 3	AME518.12
18	a. Explain various steps involved in MRP system. b. Explain the JIT Kanban working principle.	Understand	CO 3	AME518.13
19	a. What types of demand are formally considered in MRP. b. Explain the methodology of MRP system briefly	Remember	CO 3	AME518.12
20	a. List out and explain any three various segments of ERP system. b. Define Line Of Balance (LOB). State its objectives.	Remember	CO 3	AME518.12
21	a. Write short notes on. Japanese concepts. b. Write short notes on MRP	Understand	CO 3	AME518.12
PART C (ANALYTICAL QUESTIONS)				
1	ABC manufacturer's produces 1, 25,000 oil seals each year to satisfy the requirement of their client. They order the metal for the	Understand	CO 3	AME518.10

	bushing in lot of 30,000 units. It cost them \$40 to place the order. The unit cost of bushing is \$0.12 and the estimated carrying cost is 25% unit cost. Find out the economic order quantity. What percentage of increases or decrease in order quantity is required so that the ordered quantity is Economic order quantity.											
2	The XYZ Company produces wheat flour as one of their product. The wheat flour is produced in the pack of 1kg. The demand for wheat flour is 40,000 packs/year& the production rate is 50,000 packs/year. Wheat flour 1kg pack cost \$0.50 each to make. The Procurement cost is \$5. The carrying cost is high because the product gets spoiled in few week times span. It is nearly 50 percent of cost of one pack. Find out the operating doctrine.	Understand	CO 3	AME518.10								
3	Discuss about practical limitations of the EOQ formula A company requires 10000 units of an item per annum. The cost of ordering is Rs. 100 per order. The inventory carrying cost is 20%. The unit price of the item is Rs. 10. Calculate a. the economic order quantity b. Optimal total annual cost c. Time between the orders. d. Define inventory.	Understand	CO 3	AME518.11								
4	a. Describe the MRP process, including netting, b. Describe the exposing and time phasing	Understand	CO 3	AME518.10								
5	a. Explain the following inputs of MRP systems Master Production schedule b. Explain the following inputs of MRP systems Bill of Material	Remember	CO 3	AME518.10								
6	Find the optimal order quantity for a product for which the price breaks are as follows. <table border="1" data-bbox="252 1211 986 1346"> <thead> <tr> <th>Quantity (units)</th> <th>Price per unit(rupees)</th> </tr> </thead> <tbody> <tr> <td>$0 \leq q_1 < 500$</td> <td>10.00</td> </tr> <tr> <td>$200 \leq q_2 < 750$</td> <td>9.25</td> </tr> <tr> <td>$750 \leq q_3$</td> <td>8.75</td> </tr> </tbody> </table>	Quantity (units)	Price per unit(rupees)	$0 \leq q_1 < 500$	10.00	$200 \leq q_2 < 750$	9.25	$750 \leq q_3$	8.75	Remember	CO 3	AME518.12
Quantity (units)	Price per unit(rupees)											
$0 \leq q_1 < 500$	10.00											
$200 \leq q_2 < 750$	9.25											
$750 \leq q_3$	8.75											

UNIT - IV

PART A (SHORT ANSWER QUESTIONS)

1	Define scheduling.	Understand	CO 4	AME518.14
2	State objectives and advantages of scheduling.	Remember	CO 4	AME518.15
3	Define production control.	Understand	CO 4	AME518.14
4	State the purpose of scheduling	Remember	CO 4	AME518.16
5	Write the factors affecting scheduling.	Understand	CO 4	AME518.17
6	Write the types of scheduling.	Remember	CO 4	AME518.17
7	Define master schedule.	Remember	CO 4	AME518.16
8	Draw man machine chart.	Understand	CO 4	AME518.14
9	Write a short note on Gantt chart.	Remember	CO 4	AME518.15
10	Write the Johnson's rule for scheduling.	Understand	CO 4	AME518.14

11	Define critical ratio.	Remember	CO 4	AME518.16
12	Define line balancing.	Remember	CO 4	AME518.17
13	What do you mean by MRP.	Understand	CO 4	AME518.17
14	State objectives of MRP.	Remember	CO 4	AME518.16
15	List MRP system components.	Understand	CO 4	AME518.14
16	Define routing.	Remember	CO 4	AME518.14
17	Define bill of materials.	Understand	CO 4	AME518.15
18	Write a short note on aggregate planning.	Understand	CO 4	AME518.14
19	Write a short note on chase planning.	Remember	CO 4	AME518.16
20	Write a short note on expediting.	Understand	CO 4	AME518.17
PART B (LONG ANSWER QUESTIONS)				
1	Discuss in detail the following functions of routings Interpretation of detailed drawings	Understand	CO 4	AME518.14
2	Discuss in detail the following functions of routings Methods analysis .	Understand	CO 4	AME518.15
3	Distinguish between the route card and route sheet, with an example	Remember	CO 4	AME518.14
4	Discuss about factors affecting routing procedure	Understand	CO 4	AME518.16
5	State the important factors that affecting routing procedure	Remember	CO 4	AME518.14
6	Explain the importance of bills of material in production control. How does it help in assembly production.	Understand	CO 4	AME518.15
7	Distinguish between loading and scheduling	Remember	CO 4	AME518.14
8	Explain the importance of route sheet in scheduling a job.	Remember	CO 4	AME518.16
9	a. Write a short note on route sheet. b. Write a short note on the information it contains	Understand	CO 4	AME518.17
10	Distinguish between single level bill of materials and indented bill of materials, with an example for each type	Remember	CO 4	AME518.17
11	Distinguish between the route card and route sheet, with an example	Understand	CO 4	AME518.16
12	Discuss in detail on Routing Procedure	Understand	CO 4	AME518.14
13	Discuss in detail on Route Sheets & Route card	Understand	CO 4	AME518.15
14	Explain factors effecting routing procedure.	Understand	CO 4	AME518.14
15	Explain the factors to be considered for bill or materials.	Understand	CO 4	AME518.15
16	Explain scheduling in brief.	Understand	CO 4	AME518.14
17	a. Write a short note on the distinction between a scheduling rule and scheduling criterion b. Explain the scheduling rules with their relative advantages and disadvantages	Remember	CO 4	AME518.16

18	a. Discuss in detail on Job shop. b. Discuss in detail on Flow shop	Understand	CO 4	AME518.17
19	a. Discuss in detail on Scheduling polices. b. Discuss in detail on Job shop and Flow shop	Remember	CO 4	AME518.14
20	a. List out various scheduling rules. Explain at least three of them b. State the standard scheduling methods. Explain at least one in detail	Remember	CO 4	AME518.15

PART C (ANALYTICAL QUESTIONS)

1	<p>a. Describe any one method of sequencing of jobs for arriving at minimum elapsed time for loading on two machines and N jobs</p> <p>b. Calculate minimum elapsed time for processing te jobs on two machines with the time period hours as shown on the each of the machine given below Jobs are to be processes first on the machine 1</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2">Machine</th> <th colspan="6">Jobs</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>4</td> <td>8</td> <td>3</td> <td>6</td> <td>7</td> <td>5</td> </tr> <tr> <td>M2</td> <td>6</td> <td>3</td> <td>7</td> <td>2</td> <td>8</td> <td>4</td> </tr> </tbody> </table>	Machine	Jobs						A	B	C	D	E	F	M1	4	8	3	6	7	5	M2	6	3	7	2	8	4	Understand	CO 4	AME518.14
Machine	Jobs																														
	A	B	C	D	E	F																									
M1	4	8	3	6	7	5																									
M2	6	3	7	2	8	4																									

2	Explain the following devices used for loading and scheduling Product-Trol Board . Also Explain the following devices used for loading and scheduling Sched-U-Graph	Understand	CO 4	AME518.15
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3	<p>In the network of figure below, the PERT time estimates of the activities are written along the activity arrows in the order <i>to-tm-tp</i>. Compute the expected time and variance for each activity. Also compute the expected duration and standard deviation for the following paths of the network.</p> <p>a. 10-20-50-80-90 b. 10-30-50-70-90 c. 10-40-60-80-90</p> <p>The computation of expected times and variances for different activities are carried in a table given below.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">Activity</th> <th colspan="2">Time Estimates</th> <th colspan="2">Expected Time</th> <th>Variance</th> </tr> <tr> <th>i</th> <th>j</th> <th>t₀</th> <th>t_m</th> <th>t_p</th> <th>t_E</th> <th>σ²</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>20</td> <td>6</td> <td>9</td> <td>12</td> <td>9.00</td> <td>1.00</td> </tr> <tr> <td>10</td> <td>30</td> <td>3</td> <td>5</td> <td>9</td> <td>5.33</td> <td>1.00</td> </tr> <tr> <td>10</td> <td>40</td> <td>10</td> <td>14</td> <td>18</td> <td>14.00</td> <td>1.78</td> </tr> <tr> <td>20</td> <td>50</td> <td>7</td> <td>10</td> <td>13</td> <td>10.00</td> <td>1.00</td> </tr> <tr> <td>20</td> <td>70</td> <td>3</td> <td>4</td> <td>8</td> <td>4.5</td> <td>0.69</td> </tr> <tr> <td>30</td> <td>50</td> <td>4</td> <td>10</td> <td>12</td> <td>9.33</td> <td>1.78</td> </tr> </tbody> </table>	Activity		Time Estimates		Expected Time		Variance	i	j	t ₀	t _m	t _p	t _E	σ ²	10	20	6	9	12	9.00	1.00	10	30	3	5	9	5.33	1.00	10	40	10	14	18	14.00	1.78	20	50	7	10	13	10.00	1.00	20	70	3	4	8	4.5	0.69	30	50	4	10	12	9.33	1.78	Understand	CO 4	AME518.16
Activity		Time Estimates		Expected Time		Variance																																																						
i	j	t ₀	t _m	t _p	t _E	σ ²																																																						
10	20	6	9	12	9.00	1.00																																																						
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	40	50	8	11	14	11.00	1.00			
	40	60	5	10	15	10.00	2.78			
	50	70	3	4	5	4.00	0.11			
	50	80	11	15	17	14.67	1.10			
	60	80	7	9	12	9.17	0.69			
	70	90	4	8	10	7.67	1.00			
	80	90	6	7	9	7.17	0.25			
4	a) Explain the problems of random order scheduling. b) Explain multiproduct scheduling in Batch production.							Remember	CO 4	AME518.16
5	Describe a)master scheduling b)Production scheduling							Remember	CO 4	AME518.17
UNIT - V										
PART A (SHORT ANSWER QUESTIONS)										
1	Write a short note on Dispatching.							Understand	CO 5	AME518.18
2	Discuss about activities of dispatcher.							Remember	CO 5	AME518.19
3	Explain dispatching rule.							Understand	CO 5	AME518.18
4	Define move order.							Remember	CO 5	AME518.18
5	Write a short note on tool order.							Understand	CO 5	AME518.19
6	Define job ticket.							Remember	CO 5	AME518.18
7	Write a short note on inspection order.							Remember	CO 5	AME518.19
8	Define store order.							Understand	CO 5	AME518.18
9	Write a short note on finished product order.							Remember	CO 5	AME518.18
10	Define machine load chart.							Understand	CO 5	AME518.18
11	Write a short note on material requisition form.							Remember	CO 5	AME518.19
12	Define move ticket.							Remember	CO 5	AME518.18
13	Write a short note on inspection ticket.							Understand	CO 5	AME518.18
14	Define labor card.							Remember	CO 5	AME518.18
15	Define tool and gauge ticket.							Understand	CO 5	AME518.18
16	List the advantages of centralized dispatching.							Remember	CO 5	AME518.19
17	Write the rules of dispatching.							Understand	CO 5	AME518.18
18	List the disadvantages of centralized dispatching.							Understand	CO 5	AME518.19
19	Define critical ratio.							Remember	CO 5	AME518.19
20	List the advantages of decentralized dispatching.							Understand	CO 5	AME518.18
PART B (LONG ANSWER QUESTIONS)										
1	Explain in detail about various Dispatching procedure.							Understand	CO 5	AME518.18

2	Explain in detail about various Activities of dispatches	Remember	CO 5	AME518.19
3	Explain in detail about various Applications of computer in PPC.	Remember	CO 5	AME518.18
4	a. Discuss in detail about follow up b. Explain follow up significance in production	Remember	CO 5	AME518.18
5	Explain the applications of computer in Production Planning & Control	Remember	CO 5	AME518.18
6	Explain various activities of dispatcher	Understand	CO 5	AME518.18
7	a. List out various forms raised by dispatcher. b. Explain any three with neat sketch	Understand	CO 5	AME518.19
8	Describe the forms used in dispatching Move order	Remember	CO 5	AME518.18
9	Describe the forms used in dispatching Production ticket	Understand	CO 5	AME518.19
10	Discuss about, a) issue of move orders. b) issue of tool orders.	Understand	CO 5	AME518.18
11	Discuss in detail the sequential steps involved in dispatching	Understand	CO 5	AME518.08
12	Explain the applications of computer in Production Planning & Control	Understand	CO 5	AME518.18
13	Discuss about a) issue of inspection orders. b) Issue of job orders.	Understand	CO 5	AME518.19
14	Explain briefly about centralized dispatching.	Understand	CO 5	AME518.19
15	Explain briefly about combination rules.	Understand	CO 5	AME518.18
16	Discuss about a) issue of inspection orders. b) Issue of orders to finished product stores.	Understand	CO 5	AME518.18
17	Explain briefly about decentralized dispatching.	Understand	CO 5	AME518.19
18	Explain briefly about the duties of a dispatcher.	Understand	CO 5	AME518.18
19	Explain briefly about the sequence of dispatching activities	Understand	CO 5	AME518.19
20	Explain about manufacturing order with a neat flow chart.	Understand	CO 5	AME518.18

PART C (ANALYTICAL QUESTIONS)

1	Discuss advantages and disadvantages of centralized and decentralized dispatching.	Remember	CO 5	AME518.19
2	Discuss various orders triggered in a manufacturing firm by a centralized dispatching department.	Understand	CO 5	AME518.18
3	Explain centralized and decentralized system of dispatching.	Remember	CO 5	AME518.19
4	Describe duties of dispatching and discuss dispatching procedure.	Understand	CO 5	AME518.19
5	Describe the following forms used in dispatching: (a) Move order (b) Production ticket.	Understand	CO 5	AME518.18
6	Explain the reasons for existence of follow-up functions.	Remember	CO 5	AME518.18
7	Discuss in details about dispatching rules used in shop floor.	Understand	CO 5	AME518.18
8	Explain briefly the dispatching activities and the necessity of close control in dispatching activities.	Remember	CO 5	AME518.18
9	Explain about the Dispatching. Also Enumerate the duties of a Dispatcher with list of records maintained by Dispatching	Understand	CO 5	AME518.18

	Department.			
10	With the help of a Organizational Charts, explain the Centralized and Decentralized System of Dispatching.	Understand	CO 5	AME518.18
11	Explain how do you present production delays. Also discuss about the courses of production delays with examples.	Remember	CO 5	AME518.18
12	With the help of a Organizational Charts, explain the Centralized and Decentralized System of Dispatching. Also List the merits and demerits of Centralized and decentralized system of dispatching.	Understand	CO 5	AME518.19

Prepared by:

Mr. V. Mahidhar Reddy, Assistant Professor

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