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**TEST SERIES**  
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**SUGGESTED SOLUTION**

**CA FINAL**

**ADVANCED MANAGEMENT ACCOUNTING**

**Test Code –FNJ5001**

**BRANCH - (MUMBAI) (Date :21.05.2017)**

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**Ans. 1**

## Computation of Sales Variances

Basic Calculations:

BM = Budgeted Margin = Budgeted Selling Price - Standard Cost

For PC = `24,000 - `14,000 = `10,000 and similarly for others.

AM = Actual Margin = Actual Selling Price - Standard Cost

For PC = `22,000 - `14,000 = `8,000 and similarly for others.

RQ = Revised Quantity = Total Actual Quantity (11,000) in Budgeted Sales Mix Ratio i.e. 7:1:2

For PC = 11,000 × 7/10 = 7,700 and similarly for others.

**BASIC CALCULATIONS FOR THE COMPUTATION OF SALES VARIANCES**

Type of Product	BQ	BM	BQ × BM	AQ	AM	AQ × AM (2)	AQ × BM (3)	RQ	RQ × BM (4)
PC	7,000	10	70,000	8,250	8.00	66,000	82,500	7,700	77,000
Portable PC	1,000	6	6,000	1,650	3.00	4,950	9,900	1,100	6,600
Super PC	2,000	40	80,000	1,100	10.00	11,000	44,000	2,200	88,000
	<b>10,000</b>		<b>1,56,000</b>	<b>11,000</b>		<b>81,950</b>	<b>1,36,400</b>	<b>1,100</b>	<b>1,71,600</b>

**Step 2:** Calculate Sales Margin Variances as follows:**Sales Margin Variance (2-1) = (AQ × AM) - (BQ × BM)**

PC = `66,000 - `70,000 = `4,000 (A)  
 Portable PC = `4,960 - `6,000 = `1,050 (A)  
 Super PC = `11,000 - `80,000 = `69,000 (A)  
 SMV = `74,050 (A)

**Sales Margin Price Variance (2 - 3) = (AQ × AM) - (AQ × BM)**

PC = `66,000 - `82,500 = `16,500 (A)  
 Portable PC = `4,950 - `9,900 = `4,950 (A)  
 Super PC = `11,000 - `44,000 = `33,000 (A)  
 SMPV = `54,450 (A)

**Sales Margin Volume Variance (3 -1) = (AQ × BM) - (BQ × BM)**

PC = `82,500 - `70,000 = `12,500 (F)  
 Portable PC = `9,900 - `6,000 = `3,900 (F)  
 Super PC = `44,000 - `80,000 = `36,000 (A)  
 SMW = `19,600 (A)

**Sales Margin Mix Variance (3 - 4) = (AQ × BM) - (RQ × BM)**

PC = `82,500 - `77,000 = `5,500 (F)  
 Portable PC = `9,900 - `6,600 = `3,300 (F)  
 Super PC = `44,000 - `88,000 = `44,000 (A)  
 SMMV = `35,200 (A)

**Sales Margin Sub-Volume Variance = (total AQ - Total BQ) × Average Budgeted Margin**

= (11,000 - 10,000) × `15.6 = `15,600 (F)

**Note:** Average Budgeted Margin =  $\frac{\text{Total (BQ} \times \text{BM)}}{\text{BQ}}$ =  $\frac{(10 \times 7,000) + (6 \times 1,000) + (40 \times 2,000)}{7,000 + 1,000 + 2,000}$  = `15.6**Alternatively, SMSW (4 -1) = (RQ × BM) - (BQ × BM)**

PC = `77,000 - `70,000 = `7,000 (F)  
 Portable PC = `6,600 - `6,000 = `600 (F)  
 Super PC = `88,000 - `80,000 = `8,000 (F)

Answer-2 :

## Random Numbers Allocation

## Arrivals

Time Between Two Consecutive Arrivals of Customers in minutes	Probability	Cumulative Probability	Random Nos. Allocated
3	0.17	0.17	00 – 16
4	0.25	0.42	17 – 41
5	0.25	0.67	42 – 66
6	0.20	0.87	67 – 86
7	0.13	1.00	87 – 99

(2 Marks)

## Service Time

Arrivals Time by the Teller in minutes	Probability	Cumulative Probability	Random Nos. Allocated
3	0.10	0.10	00 – 09
4	0.30	0.40	10 – 39
5	0.40	0.80	40 – 79
6	0.15	0.95	80 – 94
7	0.05	1.00	95 – 99

(2 Marks)

## Simulation Table

S. No	R. No	Arrival Time in minutes	Arrival Time A.M.	Service Begins A.M.	R. No	Service Time in minutes	Service Ends A.M.	Waiting Time for Customer Time in minutes	Idle Time in mints
1	11	3	11.03	11.03	56	5	11.08	---	3
2	23	4	11.07	11.08	72	5	11.13	1	---
3	94	7	11.14	11.14	83	6	11.20	---	1
4	83	6	11.20	11.20	02	3	11.23	---	---
5	97	7	11.27	11.27	99	7	11.34	---	4
6	83	6	11.33	11.34	10	4	11.38	1	---
7	93	7	11.40	11.40	34	4	11.44	---	2
8	33	4	11.44	11.44	53	5	11.49	---	---
9	49	5	11.49	11.49	94	6	11.55	---	---
10	37	4	11.53	11.55	97	7	12.02	2	---
Total								4	10

(4 Marks)

Total Waiting Time of Customers: 4 minutes  
 Total Idle Time of Teller: 10 minutes

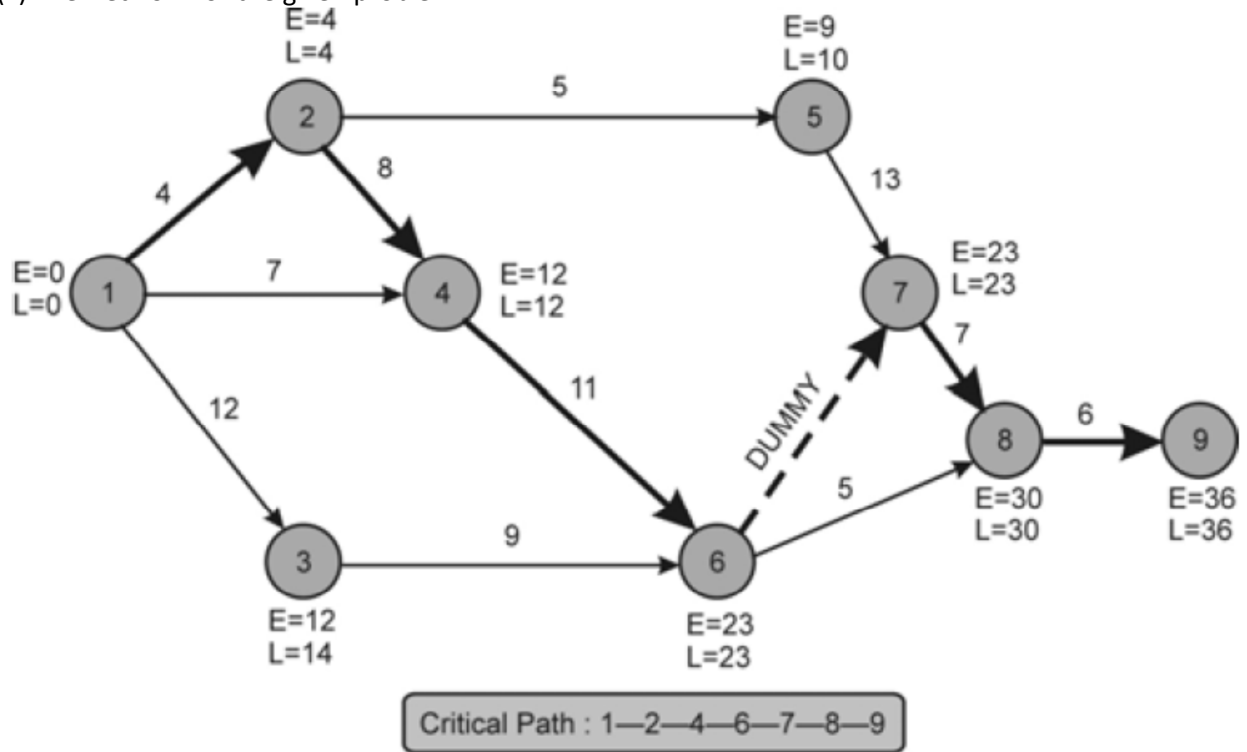
Answer-3 :

(i) Calculation of Missing Figures:

Activity	Duration	EST	EFT	LST	LFT	Total Float
	$D_{ij}$	$E_i$	$E_i + D_{ij}$	$L_j - D_{ij}$	$L_j$	$LST - EST$
1-2	4	0	4	0	4	0
1-3	12	0	12	2	14	2
1-4	7	0	7	5	12	5
2-4	8	4	12	4	12	0
2-5	5	4	9	5	10	1
3-6	9	12	21	14	23	2
4-6	11	12	23	12	23	0
5-7	13	9	22	10	23	1
6-7	0	23	23	23	23	0
6-8	5	23	28	25	30	2
7-8	7	23	30	23	30	0
8-9	6	30	36	30	36	0

(5 Marks)

(ii) The Network for the given problem:



\*(2 Marks)

(iii) The Various Paths in the Network are:

- 1-2-4-6-7-8-9 with Duration 36 Days
- 1-2-5-7-8-9 with Duration 35 Days
- 1-3-6-7-8-9 with Duration 34 Days
- 1-2-4-6-8-9 with Duration 34 Days
- 1-3-6-8-9 with Duration 32 Days
- 1-4-6-7-8-9 with Duration 31 Days
- 1-4-6-8-9 with Duration 29 Days

(2 Marks)

(iv) The Critical Path is 1–2–4–6–7–8–9 with Duration 36 Days.

**Answer-4 :**

**Calculation of "Activity Rate"**

Cost Pool	Cost (Rs.) [A]	Cost Driver [B]	Rate (Rs.) [C] = [A]÷[B]
Machine Department Expenses	18,48,000	Machine Hours (1,32,000 hrs.)	14.00
Assembly Department Expenses	6,72,000	Assembly Hours (42,000 hrs.)	16.00
Setup Cost	90,000	No. of Production Runs (450*)	200.00
Stores Receiving Cost	1,20,000	No. of Requisitions Raised on the Stores (120)	1,000.00
Order Processing and Dispatch	1,80,000	No. of Customers Orders Executed (3,750)	48.00
Inspection and Quality Control Cost	36,000	No. of Production Runs (450*)	80.00
<b>Total (Rs.)</b>	<b>29,46,000</b>		

**(3 Marks)**

\*Number of Production Run is 450 (150 + 120 + 180)

**Statement Showing "Overheads Allocation"**

Particulars of Cost	Cost Driver	P	Q	R	Total
Machine Department Expenses	Machine Hours	4,20,000 (30,000 × Rs.14)	6,72,000 (48,000 × Rs.14)	7,56,000 (54,000 × Rs.14)	18,48,000
Assembly Department Expenses	Assembly Hours	2,40,000 (15,000 × Rs.16)	—	4,32,000 (27,000 × Rs.16)	6,72,000
Setup Cost	No. of Production Runs	30,000 (150 × Rs.200)	24,000 (120 × Rs.200)	36,000 (180 × Rs.200)	90,000
Stores Receiving Cost	No. of Requisitions Raised on the Stores	40,000 (40 × Rs.1,000)	30,000 (30 × Rs.1,000)	50,000 (50 × Rs.1,000)	1,20,000
Order Processing and Dispatch	No. of Customers Orders Executed	60,000 (1,250 × Rs.48)	48,000 (1,000 × Rs.48)	72,000 (1,500 × Rs.48)	1,80,000
Inspection and Quality Control Cost	No. of Production Runs	12,000 (150 × Rs.80)	9,600 (120 × Rs.80)	14,400 (180 × Rs.80)	36,000
<b>Overhead (Rs.)</b>		<b>8,02,000</b>	<b>7,83,600</b>	<b>13,60,400</b>	<b>29,46,000</b>

**(5 Marks)**

**-Answer:5**

(i) Total Annual Production (in units)

Particulars	Units
Sales in 4 quarters	3,07,500
Add: Desired Closing balance	<u>32,500</u>
	3,40,000
Less: Opening Balance	20,000
Total number of units to be produced in the next year	3,20,000
Production Budget in units	

Particulars	Q-I	Q-II	Q-III	Q-IV	Total
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Sales	60,000	75,000	82,500	90,000	3,07,500
Production in current quarter (80% of the sale of current quarter)	48,000	60,000	66,000	72,000	
Production for next quarter (20% of the sale of next quarter)	15,000	16,500	18,000	24,500*	
<b>Total production</b>	<b>63,000</b>	<b>76,500</b>	<b>84,000</b>	<b>96,500*</b>	<b>3,20,000</b>

\*Difference in balancing figure

(ii) Raw material consumption budget (in quantity)

Particulars	Q-I	Q-II	Q-III	Q-IV	Total
Units to be produced in each quarter (1)	63,000	76,500	84,000	96,500	3,20,000
Raw material consumption per unit (Kg.) (2)	2	2	2	2	
<b>Total raw material consumption (Kg.) (1x2)</b>	<b>1,26,000</b>	<b>1,53,000</b>	<b>1,68,000</b>	<b>1,93,000</b>	<b>6,40,000</b>

(iii) Raw Material Purchases budget (in quantity)

Particulars	Kg.
Raw material required for production	6,40,000
Add: Desired Closing balance of raw material	<u>10,000</u>
	6,50,000
Less: Opening Balance	<u>20,000</u>
Materials to be purchased	6,30,000

Raw Material Purchases budget (in value)

Quarters	% of Annual requirement (qty.) for purchasing raw material	Quantity of raw material to be purchased (Kg.)	Rate per kg. (Rs)	Amount
I	30	1,89,000 (6,30,000 x 30%)	2	3,78,000
II	50	3,15,000 (6,30,000 x 50%)	3	9,45,000
III	20	1,26,000 (6,30,000 x 20%)	4	5,04,000
		6,30,000		18,27,000