1 (a). Answer

i. EQA=$\sqrt{\frac{2AB}{C}}=\sqrt{\frac{2*60000*800}{1.5}}$=8000 units

Where A=60000, B=800, C=10*15%=1.5

ii. Re order level=Safety stock +lead time consumption=600+2000=2600units

Where lead time consumption=10days*Average consumption per day=10*60000/300=2000units

iii. **Maximum stock level**=ROL+ROQ –(Minimum consumption per day*minimum re order period)

=2600+8000-(60000/300)*10 days = 2600+8000-2000=8600units

Note: As there is no information about minimum consumption & minimum reorder period, Average consumption per day & lead time was taken

iv. Average stock level=EOQ*1/2=8000/2=4000units

1 (b) Answer

i.	WIP control a/c Dr	325000	
	FOH control a/c Dr	115000	
	To Stores ledger control a/c Cr		440000
ii.	WIP control a/c Dr	487500	
	FOH control a/c Dr	162500	
	To Wages control a/c Cr		650000
iii.	FOH control a/c Dr	250000	
	To Over Absorption a/c Cr		250000
	Under Absorption a/c Dr	175000	
	To Administration control a/c Cr		175000
iv.	Sundry creditors a/c Dr	150000	
	To Bank/Cash a/c Cr		150000
v.	Bank/Cash a/c Dr	200000	
	To Sundry Debtors a/c Cr		200000

2(a) Answer

Particulars	**Computations**	**Rs**
Depreciation	=(1800000-120000)*1/15*1/12	9333.33
Insurance charges	=1800000*3%*1/12	4500
Manager cum accountant salary	Given	8000
Annual tax	=50000/12	4166.66
Garage rent	Given	2500
Annual repairs and Maintenance	=150000/12	12500
Drivers salary	Given	15000
Conductor salary	Given	12000
Stationery	Given	500
Engine oil, lubricants..	=(20km*3*2*25days)*2500/1200	6250
Diesel and oil	=(20km*3*2*25days)*52/10	15600
Total cost excluding driver commission	**75%**	**90350**
Driver commission	10%	12046.67
Total cost	**85%**	**102396.67**
Profit	15%	18070
Revenue(collection)	**100%**	**120466.7**

Total cost excluding driver commission =75%--------90350

Total collection =100%------?

Total collection = 90350 * 100/75 = 120466.7

Passenger km =20km*3*2*40passengers*25days=120000Passengers km

$$\text{Fare}=\frac{\text{Total collection}}{\text{Passenger km}} = \frac{120466.7}{120000} = 1.003 \text{ per passenger km}$$

3(a) Answer

i. Labour T/O under separation method = S/L

5% = 40/L

Where, number of separations = 40

Average Labour force (L) =40/5%=800

ii. Labour T/O under replacement method= R/L

8% =R/800

Replacements(R) =800*8%=64

iii. Labour T/O under FLUX method=(S+A)/L

13 %=(40+A)/800

40+A=800*13%=104

Accessions=104-40=64

iv. We know that accessions = Number of workers at the end + Number of separations – Number of workers at the beginning

In this case we don't know no. Of workers at the beginning & end, so let's take

No. Of workers at the beginning = X

No. Of workers at the end = Y

Accessions = 64

Separations = 40

By taking all the values in the above equation

64 = Y + 40 – X

Y – X = 24.....1

We know that average labour in force = (No. Of workers at the beginning + No. Of workers at the end) / 2

800 = (X + Y) / 2

Y +X = 1600.....2

By solving the above 2 equations

Y = 812, X = 788

No. Of workers at the beginning = 788

4(a) Answer

i. Material usage variance=SPSQ-SPAQ=45*9000Kg-45*8900kg=100kg*45=4500F

Computation of SQ

Standard for one packet (10kg) ----------10kg

Standard Quantity for actual output of 9000kg=?

SQ=9000kgs but actual consumption is 8900kg, so 100kg saved

Material Usage variance=100kg saved*45=4500Favorable effect

ii. Material price variance=SPAQ-APAQ=45*8900-46*8900=8900A

iii. Material cost variance=SPSQ-APAQ=45*9000- 46*8900=4400A

iv. Labour efficiency variance=SRSH-SRAH=50*7200-50*7000=10000F

Computation of SH

Standard hours for 10kg out=8hours

Standard hours for 9000kgs output=?

SH=9000*8/10=7200hours but actual taken is 7000hours, so here time saved due to more efficiency, so favourable effect

v. Labour rate variance=SRAH-ARAH=50*7000-52*7000=14000A

vi. Labour cost variance=SRSH-ARAH=50*7200-52*7000=4000A

vii. Variable OH cost variance=Absorbed VOH-actual VOH=SRSH-Actual VOH=10*7200-72500=500A

viii. Fixed OH cost variance=Absorbed OH-Actual OH=9000*200/10-192000=180000-192000=12000A

Computation of Absorbed FOH

Standard recovery rate per kg of output=200/10=20per kg

Absorbed =Actual output*20perkg=9000*20=180000

6(a) Answer

Particulars	Computations	Rs
Depreciation	(25,00,000 – 1,25,000) * 3,000 / 25,000	2,85,000
Power	Working note no. 1	3,25,000
Cost of repairs & maintenance	Given	26,000
Chemical cost	2,600 * 12	31,200
Overhead charge	18,000 * 12	2,16,000
Insurance	25,00,000 * 2%	50,000
Operator salary	(18,500 * 12 * 2)/3	1,48,000
Total Cost		**10,81,200**
Effective working hours	Working note no. 1	2,407.41 Hours

$$\text{Machine hour rate} = \frac{\text{Total Cost}}{\text{Effective workinh hours}}$$

$$= \frac{10,81,200}{2,407.41} = 449.11 \text{ per hour}$$

Working note no.1

Total working hours per annum = 3000

Maintenance hours = 400

Working hours including set up time = 3,000 – 400 = 2,600

Set up time = 8% of **actual** working hours

Lets take Actual working hours = 100

Set up time = 100 * 8% = 8

Working hours including set up time = 108

Set up time = 2,600 * 8/108 = 192.59 hours [108.....8 ; 2,600.....?]

Therefore effective working hours = 2,600 – 192.59 = 2,407.41 hours

Power cost = 2,600 hours* 25units * 5per unit = 3,25,000

Notes:

1. ***It was assumed that working hours are inclusive of maintenance hours & Set up time***
2. ***power is required during set up time***

NOTE: Dear students, Verify the solutions and let us know any queries/corrections to be made