PART B: PRACTICAL QUESTIONS- (i)Labour cost

Question 1

- Number of employees on **1st January** = **1,800**
- Number of employees on **31st January** = **2,200**
- Employees who **quit** = **20**
- Employees **terminated** = **80**
- Total **separations** (quit + terminated) = **20 + 80 = 100 (Separation** refers to the total number of employees **leaving the company** for any reason, including resignations, terminations, or retirements.)
- Workers **recruited** = **50** (to fill vacancies)
- Workers hired for **expansion** = **300 - 50 = 250 (Expansion** refers to **new hiring for business growth** rather than replacing employees who left.)
- Replacement refers to hiring employees **to fill vacancies left by those who separated** (quit or were terminated).

(a) Separation Method

Formula:

$$\text{Labor Turnover (Separation Method)} = \left(\frac{\text{Number of separations}}{\text{Average number of employees}}\right) \times 100$$

Where:

$$\text{Average number of employees} = \frac{\text{Employees at start} + \text{Employees at end}}{2}$$

$$= \frac{1,800 + 2,200}{2} = \frac{4,000}{2} = 2,000$$

Now, applying the formula:

$$\text{Labor Turnover} = \left(\frac{100}{2,000}\right) \times 100$$

$$= (0.05) \times 100$$

$$= \mathbf{5\%}$$

(b) Replacement Method

Formula:

(b) Replacement Method

Formula:

$$\text{Labor Turnover (Replacement Method)} = \left(\frac{\text{Number of replacements}}{\text{Average number of employees}}\right) \times 100$$

Where:

- Number of **replacements** = 50

Now, applying the formula:

$$\text{Labor Turnover} = \left(\frac{50}{2,000}\right) \times 100$$

$$= (0.025) \times 100$$

$$= \mathbf{2.5\%}$$

Question 2

Step 1: Calculate the Piece Rate

The **piece rate** is the amount paid per unit produced. It is determined by:

$$\text{Piece Rate} = \frac{\text{Normal Time Rate per Hour}}{\text{Standard Production per Hour}}$$

Given:

- **Standard production = 20 units per hour**
- **Normal time rate = RM10 per hour**

$$\text{Piece Rate} = \frac{10}{20} = \text{RM0.50 per unit}$$

Step 2: Calculate the Earnings of John

- **John's actual production = 200 units**
- **John's earnings = Units produced × Piece Rate**

$$= 200 \times 0.50$$

$$= \mathbf{RM100}$$

Step 3: Calculate the Earnings of Kelvin

- **Kelvin's actual production = 250 units**
- **Kelvin's earnings = Units produced × Piece Rate**

$$= 250 \times 0.50$$

$$= \mathbf{RM125}$$

Question 3

(a) Job X321

- Normal time cost = 480 × £8 = £3,840
- Evening time cost = 102 × £12 = £1,224
- Weekend time cost = 10 × £16 = £160
- Total cost for Job X321 = £3,840 + £1,224 + £160 = £5,224

(b) Job X786

- Normal time cost = 220 × £8 = £1,760
- Evening time cost = 60 × £12 = £720
- Weekend time cost = 30 × £16 = £480
- Total cost for Job X786 = £1,760 + £720 + £480 = £2,960

(c) Job X114

- Normal time cost = 150 × £8 = £1,200
- Evening time cost = 80 × £12 = £960
- Weekend time cost = 16 × £16 = £256
- Total cost for Job X114 = £1,200 + £960 + £256 = £2,416

Question 4

Step 1: Calculate Earnings for Each Day

Day	Units Produced	Calculation Based on Piece Rate	Daily Pay (£)
Monday	68	(50 × £0.50) + (18 × £0.60)	£34 + £10.80 = £44.80
Tuesday	83	(50 × £0.50) + (20 × £0.60) + (10 × £0.65) + (3 × £0.70)	£34 + £12 + £6.50 + £2.10 = £54.60
Wednesday	59	(50 × £0.50) + (9 × £0.60)	£34 + £5.40 = £39.40
Thursday	94	(50 × £0.50) + (20 × £0.60) + (10 × £0.65) + (14 × £0.70)	£34 + £12 + £6.50 + £9.80 = £62.30
Friday	47	(47 × £0.50)	£23.50

Step 2: Calculate Total Gross Pay for the Week

$$44.80 + 54.60 + 39.40 + 62.30 + 23.50 = \mathbf{£224.60}$$

PART B: PRACTICAL QUESTIONS- (i)Overhead cost

Question 1

Step 1: Allocate Overhead Costs to Departments

We need to allocate the following costs based on given criteria:

Overhead Cost	Total RM	Basis of Allocation
Heat & Light	19,200	Floor Area
Repair Costs	9,600	Machinery Value
Machinery Depreciation	54,000	Machinery Value
Rent & Rates	38,400	Floor Area
Canteen	9,000	Number of Employees
Machinery Insurance	25,000	Machinery Value

Now, allocate each overhead cost based on department data.

Step 1.1: Allocate Heat & Light (Based on Floor Area)

$$\text{Rate per m}^2 = \frac{19,200}{15,000} = RM1.28 \text{ per m}^2$$

$$\text{Dept A} = 6,000 \times 1.28 = RM7,680$$

$$\text{Dept B} = 4,000 \times 1.28 = RM5,120$$

$$\text{Maintenance} = 3,000 \times 1.28 = RM3,840$$

$$\text{Stores} = 2,000 \times 1.28 = RM2,560$$

Step 1.2: Allocate Repair Costs (Based on Machinery Value)

$$\text{Total Machinery Value} = 80,000$$

$$\text{Rate per RM1,000} = \frac{9,600}{80} = RM120 \text{ per RM1,000 machinery value}$$

$$\text{Dept A} = 48 \times 120 = RM5,760$$

$$\text{Dept B} = 20 \times 120 = RM2,400$$

$$\text{Maintenance} = 8 \times 120 = RM960$$

$$\text{Stores} = 4 \times 120 = RM480$$

Step 1.3: Allocate Machinery Depreciation (Based on Machinery Value)

$$\text{Rate per RM1,000} = \frac{54,000}{80} = RM675 \text{ per RM1,000}$$

$$\text{Dept A} = 48 \times 675 = RM32,400$$

$$\text{Dept B} = 20 \times 675 = RM13,500$$

$$\text{Maintenance} = 8 \times 675 = RM5,400$$

$$\text{Stores} = 4 \times 675 = RM2,700$$

Step 1.4: Allocate Rent & Rates (Based on Floor Area)

$$\text{Rate per m}^2 = \frac{38,400}{15,000} = RM2.56 \text{ per m}^2$$

$$\text{Dept A} = 6,000 \times 2.56 = RM15,360$$

$$\text{Dept B} = 4,000 \times 2.56 = RM10,240$$

$$\text{Maintenance} = 3,000 \times 2.56 = RM7,680$$

$$\text{Stores} = 2,000 \times 2.56 = RM5,120$$

Step 1.5: Allocate Canteen Costs (Based on Number of Employees)

$$\text{Rate per employee} = \frac{9,000}{120} = RM75 \text{ per employee}$$

$$\text{Dept A} = 50 \times 75 = RM3,750$$

$$\text{Dept B} = 40 \times 75 = RM3,000$$

$$\text{Maintenance} = 20 \times 75 = RM1,500$$

$$\text{Stores} = 10 \times 75 = RM750$$

Step 1.6: Allocate Machinery Insurance (Based on Machinery Value)

$$\text{Rate per RM1,000} = \frac{25,000}{80} = RM312.50 \text{ per RM1,000}$$

$$\text{Dept A} = 48 \times 312.50 = RM15,000$$

$$\text{Dept B} = 20 \times 312.50 = RM6,250$$

$$\text{Maintenance} = 8 \times 312.50 = RM2,500$$

$$\text{Stores} = 4 \times 312.50 = RM1,250$$

Step 2: Reallocate Service Department Costs to Production Departments

Service department costs (Maintenance & Stores) are allocated based on **Material Acquisition Percentage** (40% to Dept A, 60% to Dept B). Then sum up all total cost for Dep A&B (from Step 1.1 until 1.6)

Question 2

Step 1: Calculate Overhead Absorption Rate

$$\text{Absorption Rate} = \frac{\text{Budgeted Overheads}}{\text{Budgeted Direct Labor Hours}}$$

$$= \frac{57,500}{5,600} = RM10.27 \text{ per labor hour}$$

Step 2: Calculate Applied Overheads

$$\text{Applied Overheads} = \text{Actual Direct Labor Hours} \times \text{Absorption Rate}$$

$$= 5,925 \times 10.27 = RM60,867.75$$

Step 3: Determine Over/Under Absorption

$$\text{Over/Under Absorption} = \text{Applied Overheads} - \text{Actual Overheads}$$

$$= 60,867.75 - 61,257 = \mathbf{-RM389.25} \text{ (Under-absorbed)}$$

Question 3

Step 1: Calculate Direct Costs

$$\text{Direct Material Cost} = 6,780.10 - 39.60 = RM6,740.50$$

$$\text{Direct Labor Cost} = (146 \times 4.80) + (39 \times 5.70) + (279 \times 6.10)$$

$$= 700.80 + 222.30 + 1,701.90 = RM2,625$$

Step 2: Calculate Overhead Absorption

$$\text{Dept A Overhead Cost} = \frac{38,500}{22,000} \times 411 = RM720.68$$

$$\text{Dept B Overhead Cost} = \frac{75,088}{19,760} \times 657 = RM2,496.40$$

$$\text{Dept C Overhead Cost} = \frac{40,964}{41,800} \times 279 = RM273.12$$

Step 3: Add Special Costs & Total Production Cost

$$\text{Total Production Cost} = 6,740.50 + 2,625 + 720.68 + 2,496.40 + 273.12 + 59 = RM12,914.70$$

Step 4: Calculate Profit/Loss

$$\text{Selling Price} = RM17,200$$

$$\text{Total Profit} = 17,200 - 12,914.70 = \mathbf{RM4,285.30}$$