



**UNIVERSITY COLLEGE TATI (UCTATI)**

**FINAL EXAMINATION QUESTION BOOKLET**

COURSE CODE	: DTD 2062
COURSE TITLE	: TOOL AND DIE ECONOMICS
SEMESTER/SESSION	: SEMESTER 1 / 2024-2025
TIME	: 3 HOURS

**Instructions:**

1. This booklet contains **5** questions. Answer **all** questions.
2. All answers should be written in answer booklet.
3. Write legibly and draw sketches wherever required.
4. If in doubt, raise up your hands and ask the invigilator.

**DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO**

**THIS BOOKLET CONTAINS 5 PRINTED PAGES INCLUDING COVER PAGE**

**QUESTION 1**

- a) **Explain** what is the setup time? (3 marks)
- b) **Interpret** the definition of office overhead with suitable examples. (4 marks)
- c) **Distinguish** between direct material and indirect material. (5 marks)
- d) A guide bush was produced by a vendor in batches of 150. The direct material cost is RM 20 and direct labor cost is RM 20. Factory expenses charge is 35% of the total material and labor cost. Office and selling expenses respectively charges are 20% of total factory cost. **Solve** the value of selling price for each product if the profit required is 13% of total cost. (8 marks)

**QUESTION 2**

- a) **Explain** the definition of Estimation. (4 marks)
- b) **Interpret** the term over-estimation and under-estimation. (4 marks)
- c) **Discover** the cost for the given plastic moulded component.

No of cavity	= 2	
Component weight	= 20.5 gms	
Sprue Weight	= 3 gms	
Runner weight	= 1.5 gms	
Raw material	= Polystyrene clear	
Raw material Price	= Rm 27/kg	
Cycle time	= 30 sec	
Projected Area	= 54.3 cm <sup>2</sup>	
Injection Pressure	= 650 kg/cm <sup>2</sup>	
Load Capacity	= 35.35 T	
Machine capacity	= 80	
Machine rate/shift	= Rm 300	
Mould cost	= 26,000	
(To be amortized in one year)		(12 marks)

**QUESTION 3**

- a) **Describe** the meaning of material in cost estimation? (4 marks)
- b) **Classify** four (4) components of cost (4 marks)
- c) **Calculate** the machine hour rate for the following details: - (12 marks)

Cost of machine	= RM 7,500
Installation and erection charge	= RM 255
Scrap value	= RM 350
Energy cost	= RM 80 / year
Maintenance cost	= RM 300 / year
Space cost	= RM 100 / year
Rate of interest	= 9%
Labor cost	= RM 5 hour
Overheads	= 130% of labor cost
Assumed life of machine	= 15 years.

**QUESTION 4**

- a) **Describe** the term of depreciation. (3 marks)
- b) **Choose** one of the cost elements and explain it. (4 marks)
- c) **Explain** briefly and give the advantages of the straight-line depreciation method. (5 marks)
- d) **Calculate** the depreciation value in the following case. (8 marks)

Cost of machine	= RM 5,000
Cost of accessories	= 2,200
Installation and erection charge	= 500
Scrap value of the machine	= 800
Future worth of the machine	= 30% for 15 years

**QUESTION 5**

- a) **Explain** the meaning of measurement and checking allowance. (4 marks)
- b) **Determine** the typical purpose of costing. (6 marks)
- c) On analyzing a machine tool, the manufacturer found that the following expenditure was incurred in the manufacture of a grinding machine.

Material	= Rm 209,000
Labor Cost	= Rm 110,000
Depreciation of plant	= Rm 8,000
Depreciation of machinery	= Rm 10,000
Depreciation of office equipment	= Rm 2,000
Office Rent	= Rm 1,000
Taxes	= Rm 2,000
Insurance for factory	= Rm 3,000
General office expenses	= Rm 2,400
Factory utilities	= Rm 6,600
Office utilities	= Rm 4,500
Direct expenses	= Rm 1,500
Sales commission	= Rm 8,000
Plant manager's salary	= Rm 15,000
Office staff salary	= Rm 20,000
Sales income	= Rm 660,000

**Solve** the value of **direct cost**, **factory cost**, **production cost**, **total cost** and **profit**.

(10 marks)

-----End of Question-----

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Criteria	Marks
All questions answered will be marked according to the answer schema	/100