



## 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 (To be amortized in one year)	= 26,000 (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)

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

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