

**ECONOMICS FOR ENGINEERS
(HMTS 2101)**

Time Allotted : 2½ hrs

Full Marks : 60

Figures out of the right margin indicate full marks.

*Candidates are required to answer Group A and
any 4 (four) from Group B to E, taking one from each group.*

Candidates are required to give answer in their own words as far as practicable.

Group – A

1. Answer any twelve:

12 × 1 = 12

Choose the correct alternative for the following

- (i) The assets that can be easily converted into cash within a short period, i.e., 1 year or less are known as
(a) current asset (b) fixed asset
(c) intangible asset (d) tangible asset.
- (ii) In Perfect Competition market, the price of the product is determined by the equilibrium of
(a) Demand only (b) Supply only
(c) Value only (d) Both demand & supply.
- (iii) The process of transferring of items from a journal to their respective ledger accounts is called as
(a) entry (b) balancing
(c) posting (d) borrowing.
- (iv) Which is not the method of calculating National Income?
(a) Income method (b) Value added method
(c) Expenditure method (d) Diminishing value method.
- (v) Debtors are ___ of any firm
(a) Liability (b) Fixed assets
(c) Current assets (d) Creditors
- (vi) Depreciation is calculated under reducing balance method, based on
(a) original value (b) book value
(c) scrap value (d) market value
- (vii) Which one of the following is not a factor of production?
(a) land (b) bank loan
(c) labour (d) capital
- (viii) Bank Overdraft will come under which side of a Balance Sheet?
(a) Liability side (b) Assets side
(c) Debit side (d) Credit side.
- (ix) Which is not true at Break Even Point?
(a) Total income and total cost are the same (b) No profit
(c) No loss (d) High profit.
- (x) Cost of goods sold can be calculated by
(a) Sale – sales return (b) Sales – net profit
(c) Sales – gross profit (d) Sales - revenue

Fill in the blanks with the correct word

- (xi) Willingness to a buy a product backed by the purchasing power at a particular price is called as _____.
- (xii) There is a/an _____ relation between Demand & Supply of any product.
- (xiii) Sales – Variable cost = _____.
- (xiv) To start any partnership business, minimum numbers of required people is/ are _____.
- (xv) Any periodical payment of a fixed amount made at a regular interval is called _____.

Group – B

2. (a) Define Need with example.
(b) How Cost Push Inflation is non-identical from Demand Pull Inflation.

[[C05](Remember/LOCQ)]
[[C04](Understand/LOCQ)]

- (c) Define Law of Demand with example & diagram. Write two factors affecting Law of Demand. [[CO5](Understand/IOCQ)]
2 + 4 + 6 = 12
3. (a) Explain law of demand with diagram. [[CO4](Analyse/HOCQ)]
 (b) There are various causes that may bring about inflation. Discuss any 6 of them. [[CO4](Apply/IOCQ)]
 (c) Define GDP. [[CO4](Remember/LOCQ)]
4 + 6 + 2 = 12

Group - C

4. (a) How can RBI use bank rate to control inflation in economy? [[CO5](Analyse/HOCQ)]
 (b) What are the primary functions of commercial banks? [[CO5](Remember/LOCQ)]
 (c) Name 2 instruments of credit control used by RBI. [[CO5](Remember/LOCQ)]
4 + 6 + 2 = 12
5. (a) Write down the advantages of International Business. [[CO4](Remember/LOCQ)]
 (b) Write down the difference between Commercial Bank & Reserve Bank of India (RBI). [[CO5](Remember/LOCQ)]
 (c) From the following information, calculate & interpret:
 (i) Material Price Variance
 (ii) Material Cost Variance
 (iii) Material Usage Variance

Particulars	Quantity(in Kg)	Price (in Rs./Kg)
Standard	40	10
Actual	20	35

[[CO3,CO4](Apply/IOCQ)]
3 + 3 + 6 = 12

Group - D

6. (a) With the following data for 60% capacity, prepare flexible budget for production at 80% and 100 % activity.
 Production at 60% activity 6000units.
 Material cost Rs.100/unit
 Labour cost Rs.40/unit
 Factory expense R.40,000(40% fixed)
 Administrative expense Rs.30,000 (60% fixed)
 Fixed cost Rs.80,000 [[CO4](Apply/IOCQ)]
- (b) Journalise the following transactions
 (i) 01.04.23 purchased furniture worth Rs.56,000 by cheque
 (ii) 02.04.23 purchased raw material worth Rs.70,000 from X Ltd on credit
 (iii) 03.04.23 sold goods for cash Rs.2,00,000
 (iv) 04.04.23 paid rent Rs.25,000
 (v) 05.04.23 cash withdrawn for personal use Rs.30,000. [[CO2](Apply/IOCQ)]
7 + 5 = 12

7. (a) Considering the following data

Particulars	Amount (Rs.)	Particulars	Amount (Rs.)
Opening Debtor	750	Total Sales	2,500
Closing Debtor	850	Gross Profit	1,000
Credit Sales	800	Net profit	500
Opening Creditors	350	Equity Capital	50,000
Closing Creditors	650	Reserve & Surplus	10,000
Credit Purchases	250	Current Assets	1,800
Opening Stock	450	Current Liabilities	900
Closing Stock	550	Bills Payable	200

Calculate the following ratios:

- (i) Current Ratio
 (ii) Net Profit Ratio
 (iii) Debtors Turnover
 (iv) Creditors Turnover Ratio. [[CO2,CO3](Analyse/HOCQ)]
- (b) X Ltd. purchased furniture on 1.1.2018 worth Rs. 56,000 from Z Ltd. in cash. He paid installation charges of Rs. 4,000. The estimated life of the furniture is 6 years. Calculate the Depreciation amount and Value of the Furniture after 3 years on Straight Line Method. [[CO6](Apply/IOCQ)]
8 + 4 = 12

Group - E

8. (a) Shaheen Pvt. Ltd. Wishes to arrange overdraft facilities with its bankers from the period of March 2022 to May 2022 when it will be manufacturing mostly for inventories. Prepare a Cash Budget for the above period from the following data given below:

Month	Jan	Feb	March	April	May
Particulars					
Sales (Rs.)	2,00,000	3,00,000	4,00,000	5,00,000	6,00,000
Purchases (Rs.)	50,000	80,000	1,20,000	1,60,000	2,00,000
Wages(Rs.)	10,000	20,000	30,000	40,000	50,000
Manufacturing Exp. (Rs.)	5,000	10,000	15,000	20,000	25,000
Office Expenses (Rs.)	1,000	2,000	3,000	4,000	5,000
Selling Expenses (Rs.)	2,000	4,000	6,000	8,000	10,000

Information:

- (i) Opening balance as on 1.3.2022 is Rs. 50,000.
(ii) Period of credit allowed by the purchaser is 2 months.
(iii) 25% of sales are for cash & the period of credit allowed to customers for cash sales is 1 month.
(iv) Lag in payment in wages, manufacturing expenses, office expenses & selling expenses are 1 month.
(v) Income tax of Rs. 15,000 paid in the month of March 2022. *[[CO2](Analyse/HOCQ)]*
- (b) Consider the following data:
Selling Price Rs 50/unit;
Fixed Cost Rs. 25,000;
Variable cost Rs per Unit:
- Direct Materials = Rs. 5
 - Direct Labour= Rs 10
 - Direct Overhead= 100% of Direct Labour

Calculate:

- (i) P/V Ratio
(ii) Break Even Sales (in quantity)
(iii) Break Even Sales (in Rs.)
(iv) Numbers of units to be sold to earn a profit of Rs. 10,000.

[[CO2](Apply/IOCQ)]

8 + 4 = 12

9. (a) For venturing into two Projects A and B, initial Capital Investment of Rs. 1, 00, 00 each is made. Both the projects are having a life of 5 years. Net expected earnings for the projects are given in the table below. All other factors governing the project implementation and executions are identical.

Year	Cash inflows		Discounting Factor @ 10%
	Project A	Project B	
0	(1,00,000)	(1,00,000)	1
1	20,000	50,000	0.909
2	30,000	-25,000	0.826
3	50,000	15,000	0.752
4	40,000	40,000	0.683
5	50,000	10,000	0.621

Based on Net Present Value (NPV), comment which project should be accepted?

[[CO3] (Analyse/HOCQ)]

- (b) From the following information find out the weight age Average Cost of Capital (WACC). The Capital structure of the firm is as follows:

Sources	Amount (Rs.)	Cost of Capital
Equity Shares	4,00,000	8%
Preference Shares	3,00,000	5%
Retained Earnings	1,00,000	-
Debt	2,00,000	10%

[[CO6] (Apply/IOCQ)]

8 + 4 = 12

Cognition Level	LOCQ	IOCQ	HOCQ
Percentage distribution	23	44	33

Course Outcome (CO):

After the completion of the course students will be able to

1. Evaluate a project and estimate the total cost of a project.
2. Apply financial analytical methodologies to prepare a report regarding the financial performance of an organization.
3. Participate actively in organization's capital budgeting process.
4. Provide vital inputs regarding the pricing of a product.
5. Apply the knowledge of the interplay of various economic variables and indicators in the workplace.
6. Provide insights about different accounting concepts and apply broader concepts like costs, revenues, assets, liabilities, capital, profit, investment and interest.

*LOCQ: Lower Order Cognitive Question; IOCQ: Intermediate Order Cognitive Question; HOCQ: Higher Order Cognitive Question.

