

**R18**

**Code No: 155BD**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**B. Tech III Year I Semester Examinations, July/August - 2023**

**ENGINEERING ECONOMICS AND ACCOUNTANCY**

**(Common to CE, MMT)**

**Time: 3 Hours**

**Max. Marks: 75**

- Note:** i) Question paper consists of Part A, Part B.  
ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.  
iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

**PART - A**

**(25 Marks)**

- 1.a) What is technical efficiency? [2]
- b) What is Giffen's paradox? [3]
- c) Define GDP. [2]
- d) What are the various types of inflation? [3]
- e) What is the meaning and significance of payback period? [2]
- f) What are the disadvantages of using 'accounting rate of return' in project evaluation? [3]
- g) What is the acceptable norm for leverage ratio? [2]
- h) What is the difference between equity and preference share? [3]
- i) What are the elements of prime cost? [2]
- j) What are subsidiary books? [3]

**PART - B**

**(50 Marks)**

- 2.a) What is the significance of engineering economics?
- b) Describe the demand forecasting methods. [4+6]

**OR**

- 3.a) What are the factors determining elasticity of supply?
- b) With appropriate examples, distinguish between durable and perishable goods. [6+4]

- 4.a) What is the nature of trade policy of a country?
- b) What causes price inflation? [5+5]

**OR**

- 5.a) Distinguish between deductive and inductive method in investigation of economic principles.
- b) What do you understand by the term per capita GDP? What is its significance? [6+4]

- 6.a) A business needs a new machine and has to make the choice between machine X and machine Y. The initial cost and the net cash flow over five years (income less running expenses but not depreciation) to the business have been calculated for each machine as follows:

Cash flow	Machine X	Machine Y
Initial cost	Rs. 20,00,000	Rs. 28,00,000
Cash flow for the 1 <sup>st</sup> year	Rs. 8,00,000	Rs. 10,00,000
2 <sup>nd</sup> year	Rs. 12,00,000	Rs. 12,00,000
3 <sup>rd</sup> year	Rs. 9,00,000	Rs. 10,00,000
4 <sup>th</sup> year	Rs. 7,00,000	Rs. 9,00,000

- b) Calculate the pay back period for the two projects. [7+3]  
 What are the drawbacks of payback period approach? [7+3]  
**OR**  
 7.a) Define NPV, IRR and profitability index.  
 b) Explain the rationale of discounting future cash receipts. [6+4]

- 8.a) What are the types of long term debt financing?  
 b) Explain the relation between operating, financial and combined leverage ratios. [7+3]

9. Calculate operating leverage and financial leverage from the following data:  
 Sales ( 1,00,000 units) = Rs. 2,00,000  
 Variable cost per unit = Rs. 0.70  
 Fixed cost = Rs. 65,000  
 Interest charges = Rs. 15,000 [10]

10. On which side the increase in the following accounts will be recorded? Also mention the nature of A/c (personal, real, nominal)  
 a) Aditya a/c (proprietor)  
 b) freight a/c  
 c) Commission received  
 d) interest paid  
 e) cash a/c  
 f) creditors  
 g) machinery  
 h) debtors  
 i) capital  
 j) stock [10]

- OR**  
 11. Consider the following data of a company:  
 Sales = Rs. 2,40,00,000  
 Fixed cost = Rs. 50,00,000  
 Variable cost = Rs. 75,00,000  
 Find the following:  
 a) Contribution  
 b) Profit  
 c) Breakeven point  
 d) Margin of safety. [10]