

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)**

**CLASS: BE
BRANCH: ALL**

**SEMESTER: VI/ADD
SESSION : SP/2019**

SUBJECT: PE6009 ENGINEERING ECONOMY

TIME: 1.5 HOURS

FULL MARKS: 25

INSTRUCTIONS:

1. The total marks of the questions are 30.
 2. Candidates may attempt for all 30 marks.
 3. In those cases where the marks obtained exceed 25 marks, the excess will be ignored.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. The missing data, if any, may be assumed suitably.
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- Q1 (a) List all the generally accepted accounting principles. [2]
(b) Mr. Sahoo started business investing a cash amount of Rs.5000. He purchased goods on credit of Rs. 4000 and on cash of Rs. 1000, Furniture for Rs. 500 and rented a shop for Rs. 200. He sold goods costing Rs. 500 on credit for Rs. 700 and further invested capital amount Rs. 1000 in business and also invited Anil to invest Rs. 1000 in business. Using accounting equation, show the effect of above transaction on liabilities, capital and assets of business. [3]
- Q2 (a) Define single entry system and double entry system of book-keeping. [2]
(b) Journalize the following transactions in the book of account: [3]
Dec. 1: Ajit started business with cash Rs. 40000.
Dec. 3: He transferred business money into the Bank account of business Rs. 20000.
Dec. 5: He purchased goods for cash Rs 15000.
Dec. 8: He sold goods for cash Rs. 6000
Dec 10: He purchased furniture and paid by cash Rs. 5000
Dec. 12: He sold goods to Arvind Rs. 4000.
Dec. 16: He received from Arvind Rs 3960 in full settlement
Dec 18: He withdrew goods for personnel use Rs. 1000
Dec. 20: He withdraw cash from business for personal use Rs. 2000
- Q3 (a) Define various components of cost structure. [2]
(b) A fabrication manufacturing industry is operated manually using labor. It has factory overhead of Rs. 10000. It used direct material worth Rs. 5000 and paid Rs. 25000 as direct labor cost. Calculate the percentage overhead using appropriate method of allocating overhead cost. [3]
- Q4 (a) A machine shop has 6 drilling and 2 milling machines. Calculate the machine hour rate for both the machines if the factory expenses and other data for particular period is as follows: [5]
1. Area occupied by per drilling machine is 1 m² and by per milling machine is 2 m²
2. Cost of indirect material and labor cost is 2,00,000
3. Rent of Building is Rs. 36000
4. Insurance is Rs. 10000
5. Power consumption and repair & maintenance cost for drilling machine is Rs. 15000 and Rs. 4000 respectively
6. Power consumption and repair & maintenance cost for milling machine is Rs. 9000 and Rs. 3000 respectively
7. Machine hours for drilling machine is 6000 and for milling machine is 4000
- Q5 (a) Define margin of safety in Break-even analysis. [2]
(b) A company with a turnover of Rs. 2,00,000 produces a product with 100% capacity at Rs. 20 per unit. The marginal cost of production per unit is Rs. 10 and total fixed cost of the company is Rs. 30,000 per annum. Draw Break Even Chart and determine margin of safety in terms of quantity and revenue. [3]
- Q6 (a) Briefly explain the effect of fixed cost and variable cost on Break-even point. [2]
(b) A company currently produces 40,000 units, at Rs. 15 each. The marginal cost of production is 50% of unit cost while a fixed cost is Rs. 40,000. Calculate profit-to-volume ratio. [3]