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|---|---|
| **Name:**<br>**Enrolment No:** | UPES |

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**
**End Semester Examination, May 2019**

**Course:** Energy Accounting **Semester: IV**
**Programme:** **BA- Economics (with specialization in Energy Economics)** **CC:ECON 2011**
**Time: 03 hrs.** **Max. Marks: 100**
**Instructions:**

| | | | |
|---|---|---|---|
| | **SECTION A** | | |
| S. No. | | **Marks** | **CO1** |
| Q 1 | Statement of question | | |
| A | Definition of energy accounting. | **02** | |
| B | Concept of working interest | **02** | |
| C | Differentiate between risk service contracts and non-risk service contracts | **04** | |
| D | Explain the concept of Profit Volume Ratio | **04** | |
| E | Definition of Voyage Account | **02** | |
| F | Which of the following terms is not used in Voyage Account?<br>A. Ship B. Hull C. Voyage D. Vounching E. Port Dues. | **01** | |
| G | Process costing and job costing cannot be applied in the same industry simultaneously. Explain with reason (True or False) | **03** | |
| H | Contribution is<br>a) Sales minus total costs b) Sales minus fixed costs c) sales minus marginal costs d) none of the above. | **01** | |
| I | P/V Ratio 25%, Sales Rs. 1,20,000 and Fixed costs Rs 17,500, Profit is<br>a) Rs. 12,500 b) Rs 30,000 c) Rs 17,500 d) Rs, 20,000 | **01** | |
| | **SECTION-B** | | |
| Q | Attempt all the given questions: | | **CO2** |
| 1 | Procedure for profit determination with marginal costing approach. | **05** | |
| 2 | Write short note on process accounting. | **05** | |
| 3 | Prepare a statement of cost sheet with hypothetical figures. | **05** | |
| | **SECTION-C** | | |
| Q | Attempt any Three Questions | | **CO3, CO4** |
| A | Following particulars are available in respect of coast and revenue data of X Ltd:<br>Installed Capacity 20,000 units<br>Selling Price per unit Rs 75<br>Variable cost per unit Rs 50<br>Fixed Cost Rs. 2,20,000 (including for depreciation)<br>The company has sanctioned a term loan of Rs 3,50,000 and the instalment including interest in the first year is to be Rs. 1,00,000. It expected that this loan will increase the production capacity to 25,000 units.<br>Calculate (a) Output Break even (b) Cash Break Even Point | **15** | |
| B | What do you understand by 'cost-volume-profit relationship'? why is this relationship is important in energy business? | **15** | |

<table>
<tr><td>C</td><td>Tyler Co. enters into concession agreement with the Canadian government Co. pay the government royalties of 10% of gross production and 5% as severance tax. Company bears all the Exploration, Development and Production cost.<br>• Company spends $ 5,000,000 on Exploration and drilling cost, 2012<br>• Gross Revenue $ 7, 000,000<br>• Production $ 1,000,000<br>Income tax allows deductions of all production costs, with exploration and drilling over a period of 5 years. Tax Rate is 40 % Prepare a statement showing shares of Tyler Co and Government,</td><td>15</td><td></td></tr>
<tr><td>D</td><td>A. What items are usually recorded in the debit and credit side of voyage account? Explain.<br>B. Short Notes<br>a. Primage<br>b. Bunkers<br>c. Voyage-in-progress<br>d. Address commission</td><td>08+07</td><td></td></tr>
<tr><td></td><td>Section - D</td><td></td><td>CO4</td></tr>
<tr><td></td><td>Assume that Tyler Co. is involved in petroleum operations in Trinidad. Tyler has 49% Working Interest (WI) while local oil company has 51% WI. Annual Gross Production is to be split in the following order:<br>1. Royalty is 15% of annual gross production and is to be paid in kind.<br>2. VAT is equal to 5% of annual gross production and is to be paid in kind.<br>3. Cost oil is limited to 60% of gross production with costs to recovered in the following order:<br>a. Operating expenses<br>b. Exploration cost (paid entirely by co.)<br>c. Development cost (49 % by Co. & 51% local oil co.)<br>4. Any excess remaining after cost recovery becomes profit oil:<br>a. The government receives 12% of the profit oil.<br>b. The remainder split between the company and local oil company based on their working interest.<br>For 2012, assume the following:<br>1. Recoverable operating cost total $ 6,000,000<br>2. Exploration cost (unrecovered to date) total $ 60,000,000.<br>3. Development cost (unrecovered to date) total $ 600,000,000.<br>4. Any cost not recovered in the current year may be carried forward to be recovered in future years.<br>5. The annual gross production for the year is 3,000,000 bbl of oil.<br>6. The agreed price is $ 60/bbl.<br>Note: Payment to the parties is in kind, it is necessary to convert the costs into barrels diving cost by a price per bbl. The contract will specify how the parties are to negotiate and agreed upon the price per barrel to be used for the purpose.</td><td>20</td><td></td></tr>
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**Time: 03 hrs.** **Max. Marks: 100**
**Instructions:**

**SECTION A**

| S. No. | | **Marks** | **CO1** |
|---|---|---|---|
| Q 1 | Statement of question | | |
| A | Methods of energy accounting Explain? | **02** | |
| B | Concept of Risk Service Contracts, explain? | **02** | |
| C | Mineral rights and surface owner, explain and differentiate. | **04** | |
| D | Explain the concept of Break Even Point | **04** | |
| E | Insurance premium is 5% on freight Rs 5, 00,000. The freight insurance will be:<br>A. Rs. 2,00,000 B. Rs. 25,000 C. 5,00,000 D. 1,80,000 E. 30,000 | **02** | |
| F | Which of the following terms is not used in Voyage Account?<br>A Ship B. Hull C. Voyage D. Vouching E. Port Dues. | **01** | |
| G | Management may treat a joint product as a by-product. Explain (True or False) | **03** | |
| H | "No Profit No Loss" situation will arise only when<br>a) C>F b) C < F c) C=F d) None of the above | **01** | |
| I | Sales Rs. 1, 00,000 and contribution Rs 50,000. Hence, P/V Ratio<br>a) 100% b) 50% c) 30 % d) None of these | **01** | |

**SECTION-B**

| Q | Attempt all the given questions: | | **CO2** |
|---|---|---|---|
| 1 | Procedure for profit determination with marginal costing approach. | **05** | |
| 2 | Distinguish between job costing and process costing. | **05** | |
| 3 | Prepare a statement of cost sheet with hypothetical figures. | **05** | |

**SECTION-C**

| Q | Attempt any Three Questions | | **CO3, CO4** |
|---|---|---|---|
| A | The following data relate to Ashiana Private Ltd: (see table below)<br>a. What sales are needed to achieve the objective of no profit no loss? | **15** | |

| | |
|---|---|
| Sales ( 16,000 Units @ Rs 15) | Rs, 2,40,000 |
| Variable Costs | Rs. 1,92,000 |
| Contribution | 48,000 |
| Fixed expenses | 36,000 |
| Profit | 12,000 |

| | | | |
|---|---|---|---|
| | b. What sales are necessary to result in a net income of Rs 11,000, the corporate income tax rate being 45%?<br>c. What will be the break-even-point if 10% increase is effected in selling price? | | |
| B | What is Break Even Analysis? Discuss its assumptions and uses. | **15** | |
| C | RelEss company enters into a risk service agreement (RSA) with the Bolivian government. RELESS pays the government, in US dollars, a $ 1,000,000 signing bonus and bears all of the costs associated with Exploration, Development and Production (EDP). The contract defines costs incurred in the exploration and development of each project area as being capital costs (CAPEX) and all costs incurred in the production phase as being operating cost (OPEX).<br><br>Each year in which production occurs, the government agrees to pay RELESS co. a fee comprised of the following:<br><br>1. All Opex incurred in the current year.<br>2. 1/10th of all unrecovered CAPEX.<br>3. $ 0.50/bbl on production from 0 to 4,000 bbl/day<br>$ 0.75/bbl on production from 4001 to 10,000 bbl/day<br>$ 1.00/bbl on production from > 10,000 bbl/day<br>The maximum total fee $ 1.35/bbl times the total number barrels produced.<br>Any unrecovered OPEX or CAPEX may be carried forward to future years.<br>In 2013, production begins at field no.1 to date RELESS has spent $ 10,000,000 on CAPEX and during 2013, spends $ 2,00,000 OPEX.<br>Production during 2013 equals 4,000,000 bbls or 4,000,000/365= 10,959 bbls/day<br>Calculate the fee RELESS would receive fee for 2013. | **15** | |
| D | (A) Discuss the meaning of Royalty Accounts and its importance. Prepare the journal entries of the following transaction from a Coal Mine.<br>(B) A, the owner of a coal mine, has leased out his mine to B on the stipulation the royalties will be Re.1 per tonne raised subject to a minimum of Rs. 10,000 and the actual production is 6,000 tonnes, show the entries in the books of B. | **15** | |
| | **SECTION-D** | | **CO4** |
| 1. | What is Voyage Account? Why is it prepared? | **08** | |

<table>
<tr><td>2.</td><td>X ship of Rani Shipping company was on voyage from Bombay to Karanchi, on March 31, 2017 was helped way back from Karanchi. The following is the details of freight received and expenses:<br><br>
<table>
<tr><td>Freight Outward</td><td>Rs. 2,00,000</td></tr>
<tr><td>Freight Inward</td><td>Rs. 1,20,000</td></tr>
<tr><td>Coal consumed</td><td>Rs. 64,000</td></tr>
<tr><td>Port charges</td><td>Rs. 16,000</td></tr>
<tr><td>Stores Consumed</td><td>Rs. 24,000</td></tr>
<tr><td>Salaries of crew</td><td>Rs. 24,000</td></tr>
<tr><td>Depreciation for this journey</td><td>Rs. 32,000</td></tr>
<tr><td>Insurance of shop</td><td>Rs. 32,000</td></tr>
<tr><td>Insurance of freight</td><td>Rs. 12,800</td></tr>
<tr><td>Primage</td><td>10%</td></tr>
<tr><td>Address Commission</td><td>5%</td></tr>
</table>
Prepare the Voyage Account.</td><td>12</td><td></td></tr>
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