| Registration No. | | | | | | | | | |
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Total number of printed pages - 02

B.TECH PECE5403

7th Semester Regular / Back Examination 2016 - 17 MINERAL PROCESS ENGINEERING

BRANCH : Chemical

Time: 3 Hours

Max Marks: 70

Question Code: Y206

Answer Question No. 1 which is compulsory and any FIVE from the rest.

The figures in the right-hand margin indicate marks.

Answer all parts of a question at a place.

| | | Answer the following questions. | 2 X 10 |
|-------------|------------|--|---------------|
| | (a) | What is dead roast? | |
| | (b) | What do you mean by amalgamation inhibitors? | |
| | (c) | All minerals are ore or all ores are minerals. Choose the correct | |
| | | and justify. | |
| | (d) | What is briquetting? | |
| | (e) | Name the bacteria used for leaching process. | |
| | (f) | Differentiate between calcinations and roasting. | 210 |
| 210 | (g) | Write the characteristics of electrolytes used in electrolytic operation. | 210 |
| | (h) | Differentiate between electro-winning and electro-refining processes. | |
| | (i) | What is anode effect? | |
| | (j) | What is heap leaching? | |
| | (3) | - The state of the | |
| 2 °. | (a) | What do you mean by roasting? Give a brief idea about | 210 |
| | () | different types of roasting. | 1+4 |
| | | | |
| | (b) | With a neat leveled diagram describe the working principle of | |
| | | multiple hearth roasting. | 05 |
| 2 | (-) | Discuss in detail the heaterial leaching mathed for the | |
| 3. | (a) | Discuss in detail the bacterial leaching method for the | OF |
| 210 | | treatment of ores. Write the reactions, advantages, and uses. | 210 05 |
| | (b) | Discuss about leaching process variables. | 05 |
| | (6) | Discuss about leadining process variables. | 00 |
| 4. | | Explain in detail the electrochemical methods used for the | |
| | | treatment of minerals and ores. | 10 |
| | | | |
| | | | |

| 5. 210 | | What are the hydrometallurgical preferred to pyro-m | ²¹⁰ 10 | | | | |
|---------------|--------------------------|--|--------------------------|----------------|--------------|-------|--|
| 6. | | What is amalgamat amalgamation meth | 10 | | | | |
| 7. | | With a neat sketc Dwight-Lloyd sinter | ng machine. | in the working | principle of | 10 | |
| 8. | (a) (b) (c) (d) | Write short notes or Fluidized bed roaste Pelletisation Electro-winning Mineral beneficiatio | er | 210 | 210 | 5 x 2 | |
| 210 | | 210 | 210 | 210 | 210 | 210 | |
| 210 | | 210 | 210 | 210 | 210 | 210 | |
| 210 | | 210 | 210 | 210 | 210 | 210 | |
| 210 | | 210 | 210 | 210 | 210 | 210 | |

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