

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-VII (NEW) EXAMINATION – WINTER 2024

Subject Code:3172214

Date:16-12-2024

Subject Name: Dimensional Stone Technology

Time:10:30 AM TO 01:00 PM

Total Marks:70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

MARKS

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|------------|-----|--|-----------|
| Q.1 | (a) | Discuss the resources of dimensional stones in India. | 03 |
| | (b) | Define dimensional stones. Explain its uses and application. | 04 |
| | (c) | Define prospecting and exploration. Explain any one method. | 07 |
| Q.2 | (a) | Discuss the various dimensional stone excavation operations. | 03 |
| | (b) | Describe the major health risk in dimensional stone mining and processing. | 04 |
| | (c) | Explain the diamond wire saw machine with neat sketch. | 07 |
| OR | | | |
| | (c) | Explain the chain saw with neat sketch. | 07 |
| Q.3 | (a) | Discuss the preparatory work to be done for the dimensional stone exploitation. | 03 |
| | (b) | Describe the comparison of different extraction techniques. | 04 |
| | (c) | Explain geology and geographical distribution of marble in India. | 07 |
| OR | | | |
| Q.3 | (a) | Discuss the factors affecting the quality and exploitability of a dimension stone deposit. | 03 |
| | (b) | Describe a procedure for obtaining mining lease. | 04 |
| | (c) | Explain the geology and geographical distribution of granite in India. | 07 |
| Q.4 | (a) | Explain the secondary use of quarried land and waste of the industry. | 03 |
| | (b) | Describe the energy requirement for mechanized stone quarries. | 04 |
| | (c) | Explain the processing of dimensional stone with flow chart. | 07 |
| OR | | | |
| Q.4 | (a) | List out the machineries used for processing of dimensional stones. | 03 |
| | (b) | Describe the factors to be consider while selecting the machineries. | 04 |
| | (c) | Explain physical and chemical properties of Granite deposits. | 07 |
| Q.5 | (a) | Define slate. Write its characteristic. | 03 |
| | (b) | Describe the properties of marble deposit. | 04 |
| | (c) | Explain the environmental impact of mining and processing of dimensional stones. | 07 |
| OR | | | |
| Q.5 | (a) | Discuss the physico-mechanical properties of slate. | 03 |
| | (b) | Describe the properties of kotah stone. | 04 |
| | (c) | Explain the reserve estimation of dimensional stone. | 07 |
