

M.Tech. Structural Engineering & Construction (CBCS Pattern) Semester-I
PSES13 - New Construction Materials

P. Pages : 1

Time : Three Hours



GUG/W/24/10963

Max. Marks : 70

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- Notes :
1. All questions carry equal marks.
 2. Answer **any five** questions.
 3. Due credit will be given to neatness and adequate dimensions.
 4. Assume suitable data wherever necessary.
 5. Illustrate your answers wherever necessary with the help of neat sketches.

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| 1. | a) | Explain in brief comparison between HPC and ordinary concrete based on durability and workability. | 7 |
| | b) | Explain various alternative material which are available in replacement of concrete with their suitability to the specific work. | 7 |
| 2. | | Explain in detail Alloy steel: properties, processing and application. | 14 |
| 3. | a) | What are the different polymers used in civil engineering construction? Explain merit, demerit and utility. | 7 |
| | b) | Explain application and advantages of ferrocement in construction. | 7 |
| 4. | | Explain various types of conventional water-proofing methods and modern techniques of water-proofing. | 14 |
| 5. | a) | Explain smart/Intelligent building with reference to following
i) Operation
ii) Financing
iii) Alternation
iv) Construction. | 7 |
| | b) | Define various waste products obtained from construction industry or other industries and how those can recycle and use. | 7 |
| 6. | a) | Define Refractories and explain classification of refractories. | 7 |
| | b) | Explain in detail thermal and electrical properties of wool/Glass fibre based Hybrid composites. | 7 |
