

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

P. Pages : 1

Time : Three Hours



GUG/S/23/10963

Max. Marks : 70

- Notes :
1. All questions carry equal marks.
 2. Assume suitable data wherever necessary.
 3. Illustrate your answers wherever necessary with the help of neat sketches.
 4. Solve **any five** questions.

1. a) Explain various properties of aggregate required for HPC. 7
b) Explain in brief comparison between HPC and ordinary concrete based on durability. 7
2. a) Write note on type of structural steel, special steel. Also distinguish between alloy steel and stainless steel. 7
b) Describe any two-test procedure on self-compacting concrete. 7
3. a) What are different types of fibres used in composite. Explain any three of them. 7
b) Explain brick ferro cement composite and its application. 7
4. a) What is light weight concrete can it can be achieved in practice. 7
b) Explain merits and demerits in fibres in respect of fibre reinforced concrete. 7
5. a) Explain smart building with reference to following 7

| | |
|-------------|--------------|
| Operation | Financing |
| Alternation | Construction |

b) Explain concept of green building with reference to following. 7

| | |
|-------------|--------------|
| Design | Construction |
| Maintenance | Renovation |
6. a) Explain the characteristics of fire resisting material. 7
b) What are the requirement of fire resisting material as per national building code of India. 7
