

**THAPAR INSTITUTE OF ENGINEERING & TECHNOLOGY**

**DEPARTMENT OF CIVIL ENGINEERING**

**End-semester examination, CE-022 (Construction Materials & Techniques)**

Time: 3 Hours

Max. marks: 45

*\*Attempt all questions*

*\*Assume any missing data suitably.*

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- Q.1 (a)** What do you mean by HPC? What is difference between HPC and HSC? (5)
- (b)** What is difference between PPC and OPC? (4)
- Q.2 (a)** What is ferrocement? What are the advantages of ferrocement over conventional RCC construction? (5)
- (b)** What is silica fume and what is the effect of using silica fume in concrete? (4)
- Q.3** Explain with the reactions, what is the effect of adding fly-ash to concrete with respect to following properties
- (i)** Setting time
- (ii)** Strength
- (iii)** Durability (9)
- Q.4 (a)** What is hydraulic concrete? Comment on the statement "Use of PPC in concrete gives rise to hydraulic concrete"? (5)
- (b)** What is radiation shielding concrete? (4)
- Q.5 (a)** What is meant by mass concreting? Why can't a normal OPC be used as cement in production of mass concrete? (9)