

Total No. of Printed Pages:2

SUBJECT CODE NO:- H-427
FACULTY OF SCIENCE AND TECHNOLOGY
S.E. (Civil)
Concrete Technology
(REVISED)

[Time: Three Hours]

[Max.Marks:80]

- N.B Please check whether you have got the right question paper.
- i) Q. No.1 and Q.No.6 are compulsory. Attempt any two questions from each section From remaining.
 - ii) Draw neat sketch wherever necessary.
 - iii) Figure to the right indicate full marks.

Section A

- Q.1 Answer the following questions (Any Five) 10
- (a) What are the basic raw material used for manufacturing of cement.
 - (b) What is soundness of Cement.
 - (c) Why rapid hardening cement is not suitable for mass concreting.
 - (d) Is strength of OPC cement [28 days] is more than PPC Cement, Justify Answer
 - (e) What is cohesive concrete, Explain with Example.
 - (f) Which solution is used for determining soundness of Aggregate.
 - (g) What are admixture? Explain suitability to use retarders.
 - (h) What is difference between compaction Factor and Slump value in Fresh concrete
 - (i) What is robustness of concrete.
 - (j) Why pozzollanic material is used in High performance concrete.
- Q.2 (a) What are the methods used for manufacturing of cement. Explain in detailed wet process. 07
 (b) What is the reason that Indian Standard code does not permit to use volume batching. 08
 Explain the phenomenon of bulking of sand and How bulking of sand is determined.
- Q.3 (a) What is Alkali Aggregate reaction. 04
 (b) What are the test available to measure workability of concrete. Explain slump cone Test. 06
 (c) When admixture is required for manufacturing of concrete. Explain the functions of any two Admixtures. 05
- Q.4 (a) What is Fineness modulus. Give the range of finness modulus of Fine Aggregate and determine the Finness modulus of sand sample weigh 950 gm, weight retained on each sieves are given below 08

Is sieve Numbers	4.75 mm	2.36 mm	1.18 mm	600 micron	300 mic	150 mic	75 micron
Weight retained in gms.	73	205	146	312	114	87	13

- (b) Explain Factors affecting on properties of Hardened concrete 07
- Q.5 (a) Explain the relation between Tensile and compressive strength of concrete. 06
 (b) Explain rebound hammer test with Neat Sketch. 05
 (c) Why compaction of concrete is required. Explain any one method used for compacting the concrete with Neat Sketch. 04

Section – B

- Q.6 Answer the following (Any Five) 10
- (a) What is mix design.
 (b) What is high density concrete
 (c) What is Aerated concrete
 (d) Enlist Factors affecting on permeability of concrete.
 (e) What are Fibers? Enlist Fibers used in concrete.
 (f) What is efflorence of concrete.
 (g) Enlist methods (codes) used for mix design of concrete.
 (h) Factors affecting cracks in concrete.
 (i) What is pumping of concrete when it is generally used.
 (j) What is Target mean strength in concrete mix design.
- Q.7 (a) What are the data required for mix design of concrete. Explain step by step procedure for mix design of concrete as per IS10262.2009. 10
 (b) Write a Note on under water concreting with Neat Sketch. 05
- Q.8 (a) What should be the minimum time for mixing the concrete. Explain various types of mixers used for concrete manufacturing. 05
 (b) Differentiate between light weight concrete and High density concrete. which material generally used for manufacturing of light weight concrete and High density concrete. 05
 (c) Explain factors affecting on durability of concrete. 05
- Q.9 (a) Explain sulphate attack and corrosion of reinforcement. 08
 (b) What is repair, state symptoms and diagram of distress. 07
- Q.10 (a) Is it possible to used plastic and glass in manufacturing of concrete. Write a short Note on use of wastes in concrete. 05
 (b) What is ready mix concrete. Explain merits of ready mix concrete along with few demerits if any. 05
 (c) What is carbonation. Explain its significance. 05