Code No. : 14166 N

VASAVI COLLEGE OF ENGINEERING *(AUTONOMOUS)*, HYDERABAD
Accredited by NAAC with A++ Grade
B.E. (Civil Engg.) IV-Semester Main Examinations, July/August-2023
Concrete Technology

Time: 3 hours Max. Marks: 60

Note: Answer all questions from Part-A and any FIVE from Part-B
Use of IS 10262 is permitted

Part-A (10 × 2 = 20 Marks)

Q. No.	Stem of the question	M	L	CO	PO
1.	Define workability	2	1	1	1
2.	List out various tests on cement	2	1	1	1
3.	What is the effect of water cement ratio on strength of the concrete	2	1	2	1
4.	Define shrinkage and creep of concrete	2	2	2	1
5.	List out various factors effecting the mix design	2	2	3	1
6.	What is stiff concrete	2	2	3	1
7.	List out the advantages of ready mix concrete	2	2	4	1
8.	Differentiate between plasticizers and super plasticizers	2	1	4	1
9.	Differentiate between High strength concrete and High performance Concrete	2	1	5	1
10.	List out various fibers used in concrete for durability and strength	2	1	5	1

Part-B (5 × 8 = 40 Marks)

11. a)	what are the properties of good aggregates for making concrete and discuss in brief various tests carried out on aggregates	5	3	1	2
b)	Discuss the following a) segregation b) bleeding	3	2	1	2
12. a)	Discuss about the rebound hammer test method on concrete structures and its limitations	5	3	2	2
b)	Draw the stress –strain curve of concrete and briefly explain.	3	3	2	2
13. a)	Differentiate between design mix and nominal mix	2	2	3	2

			M	L	CO	PO
	b)	Design a concrete mix for characteristic strength of 30MPa at 28 days with a standard deviation of 5MPa. Sp.gr of cement, F.A and C.A. are 3.15, 2.6, 2.7 respectively. F.M. of FA=2.83, Bulk density of C.A = 1600 kg/m3, Slump =60mm, quality control is good and exposure in severe, maximum size of Coarse aggregates is 20mm, OPC 53 grade cement, sand is zone 2. The water absorption of coarse aggregate is 1% and free moisture in fine aggregate is 2%. The Maximum quantity of cement allowed is 450kg/m^3. Assuming the necessary data design the mix as per IS code method.	6	4	3	6
14.	a)	Discuss any three types of mineral admixtures for concrete	5	4	4	2
	b)	Briefly explain the applications of Recycled aggregate concretes	3	3	4	8
15.	a)	Write a short notes on Polymer concrete.	5	3	5	2
	b)	What is light weight aggregate concrete. List out its advantages	3	2	5	2
16.	a)	Discuss any one test on workability of concrete	4	2	1	2
	b)	What is maturity of concrete .Write down the formula for calculation of strength using maturity method	4	3	2	2
17.		Answer any *two* of the following:				
	a)	Draw Gaussian distribution curve for the standard deviation	4	3	3	2
	b)	What is a retarder? where do we use retarders	4	2	4	2
	c)	List out the applications of High density concretes	4	2	5	2

M : Marks;   L: Bloom's Taxonomy Level;   CO; Course Outcome;   PO: Programme Outcome

i)	Blooms Taxonomy Level – 1	16%
ii)	Blooms Taxonomy Level – 2	36%
iii)	Blooms Taxonomy Level – 3 & 4	48%

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