

Total No. of Questions: 6

Total No. of Printed Pages:3

Enrollment No.....



Faculty of Engineering
End Sem Examination Dec-2023

CE3CO05 Construction Material & Techniques

Programme: B.Tech.

Branch/Specialisation: CE

Duration: 3 Hrs.

Maximum Marks: 60

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

- | | | | |
|-----|-------|---|---|
| Q.1 | i. | Alternate course of headers and stretchers are provided in- | 1 |
| | | (a) English bond (b) Stretcher bond | |
| | | (c) Dutch bond (d) Flemish bond | |
| | ii. | Blistering is a defect of- | 1 |
| | | (a) Brick work (b) Pointing | |
| | | (c) Plastering (d) All of these | |
| | iii. | Which type of Foundation is useful for public buildings? | 1 |
| | | (a) Grillage (b) Raft | |
| | | (c) Inverted arch (d) Concentrated | |
| | iv. | Thickness of the mortar bed on which the brick flooring is laid will- | 1 |
| | | (a) 8 mm (b) 10mm (c) 12mm (d) 15mm | |
| | v. | Workability of concrete refers to- | 1 |
| | | (a) Resistance to bleeding (b) Resistance to segregation | |
| | | (c) Resistance to creep (d) None of these | |
| | vi. | Shrinkage can be minimized by- | 1 |
| | | (a) Cool and moist condition (b) Using non-absorbent formwork | |
| | | (c) Properly designed mix (d) By using any kind of form work | |
| | vii. | What will be the approx. mix proportion of M-25? | 1 |
| | | (a) 01:02:04 (b) 01:03:06 (c) 01:01:02 (d) 01:1.5:03 | |
| | viii. | The purpose of Mix design is to- | 1 |
| | | (a) Meet with strength (b) Full fill durability | |
| | | (c) Economy (d) All of these | |

[2]

- | | | |
|-----|---|----------|
| ix. | Light weight concrete may be produced by- | 1 |
| | (a) Incorporating air in its composition | |
| | (b) Using light weight aggregates | |
| | (c) Omitting the finer sizes from the aggregate grading | |
| | (d) All of these | |
| x. | Rebound hammer test is used for- | 1 |
| | (a) Workability of concrete | |
| | (b) Destructive testing of concrete | |
| | (c) Non-destructive testing of concrete | |
| | (d) None of these | |
-
- | | | | |
|-----|------|---|----------|
| Q.2 | i. | Write down any four names of main constituents of brick earth. | 2 |
| | ii. | Define cavity wall. Write down any two advantages. | 3 |
| | iii. | Write notes on (with diagrams): | 5 |
| | | (a) Stretcher bond (b) English bond | |
| OR | iv. | What is the object of plastering, State in brief different types adopted in wall finishing. | 5 |
-
- | | | | |
|-----|------|---|----------|
| Q.3 | i. | State any four purposes of foundation. | 2 |
| | ii. | Write notes on: | 8 |
| | | (a) Foundation on Black cotton soil | |
| | | (b) Shoring and Underpinning | |
| OR | iii. | What are the different types of flooring, briefly explain any four in detail. | 8 |
-
- | | | | |
|-----|------|---|----------|
| Q.4 | i. | What are the various affecting factors of workability? | 3 |
| | ii. | Write notes on: | 7 |
| | | (a) Creep of concrete | |
| | | (b) Curing of concrete in cold weather | |
| OR | iii. | Name various properties of Hardened concrete and explain any two in detail. | 7 |
-
- | | | | |
|-----|-----|---|----------|
| Q.5 | i. | Write about the purpose of concrete mix design. | 4 |
| | ii. | Write notes on: | 6 |
| | | (a) Factors influencing mix design | |
| | | (b) Acceptability criteria | |

[3]

- | | | | |
|----|------|--|----------|
| OR | iii. | Explain Indian Standard method of concrete mix design. | 6 |
|----|------|--|----------|
-
- | | | | |
|-----|------|--|----------|
| Q.6 | | Attempt any two: | |
| | i. | Write notes on | 5 |
| | | (a) Self -compacting concrete | |
| | | (b) Ready mix concrete | |
| | ii. | Explain under water concreting methods in brief. | 5 |
| | iii. | Explain any one non destructive test method of concrete. | 5 |

Marking Scheme

CE3CO05 Construction Materials & Techniques

iii. for each step

5 mark

5

Q.1	i)	(a) English bond		1
	ii)	(c) Plastering		1
	iii)	(B) Raft		1
	iv)	(a) 8mm		1
	v)	(c) None of these		1
	vi)	(d) By using any kind of formwork		1
	vii)	(c) 01:01:02		1
	viii)	(d) All of these		1
	ix)	(d) All of the above		1
	x)	(b) Non-destructive testing of concrete		1
Q.2	i.	constituent	0.5 marks for each	2
	ii.	for definition	1 mark	3
		and advantages	2 marks	
	iii.	for each part	2.5 mark	5
OR	iv.	for objects and	2 marks	5
		for types	3 marks	
Q.3	i.	for each purpose	0.5 Marks	2
	ii.	for each part	4 marks	8
OR	iii.	for types and	4 marks	8
		for explanation	4 marks	
Q.4	i.	for each factor	0.5 marks	3
	ii.	for each part	3.5 marks	7
OR	iii.	for names and	2 marks	7
		for explanation	5 marks	
Q.5	i.	for each purpose	1 mark	4
	ii.	for each part	3 marks	6
OR	iii.	for each step	0.5 mark	6
Q.6				
	i.	for each part	2.5 mark	5
	ii.	for each step	5 mark	5