



MUTHAYAMMAL ENGINEERING COLLEGE

(An Autonomous Institution)

(Approved by AICTE, New Delhi, Accredited by NAAC & Affiliated to Anna University)

Rasipuram - 637 408, Namakkal Dist., Tamil Nadu.

Department of Civil Engineering Question Bank - Academic Year (2021-22)

Course Code & Course Name : 19CEE08 & CONCRETE TECHNOLOGY

Year/Sem/Sec : III/V

UNIT-I: CONSTITUENT MATERIALS

Part-A (2 Marks)

1. What is meant by Surkhi?
2. What is natural cement?
3. Define hydration of cement?
4. What is artificial cement?
5. What are the types of cement?
6. What is the function of gypsum in the manufacture of cement?
7. Define bleeding.
8. What is known as clinker?
9. What are the types of mortars?
10. What is meant by grading of aggregates?

Part-B (16 Marks)

1. Explain in details the different tests employed for cement to ascertain its quality as per IS specification. 16
2. Explain with the help of a neat sketch, the wet process of manufacture of ordinary cement. 16
3. How does increasing the quality of water influence the properties of fresh and hardened concrete? 16
4. What do you understand by the term grading of aggregates. What importance this term carries as far as design of concrete mix is concerned. 16
5. Explain in details various stages of manufacturing of cement concrete. 16

UNIT-II : ADMIXTURES AND THEIR EFFECTS

Part-A (2 Marks)

1. Why is admixture used?
2. What are the types of Admixtures?
3. List the four main purposes of chemical admixtures using concrete?
4. What are plasticizers?
5. What are Accelerators?

6. What are retarders?
7. What is the purpose of adding admixture in concrete?
8. What is metakaoline?
9. What is the purpose of using accelerators?
10. Define chemical admixtures

Part-B (16 Marks)

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| 1. | Explain plasticizer and super plasticizer? | 16 |
| 2. | Explain action of plasticizers and classification of superplasticizer. | 16 |
| 3. | Explain the various types of mineral admixtures | 16 |
| 4. | Mention some of the construction chemicals | 16 |
| 5. | Discuss briefly the role of admixture in concrete | 16 |

UNIT-III : PROPORTIONING OF CONCRETE MIX

Part-A (2 Marks)

1. Define mix design.
2. What are the variable factors to be considered in connection with specifying a concrete mix?
3. What is meant by statistical quality control?
4. What are the common terminologies used in the statistical quality control?
5. How will you calculate the standard deviation?
6. What are the requirements of concrete mix design?
7. What are the various methods of proportioning?
8. Mention the types of Mixes.
9. What are the factors affecting the choice of mix proportions.
10. What are the factors to be considered for mix design.

Part-B (16 Marks)

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| 1. | Explain the procedure for road not no.4 method | 16 |
| 2. | Explain the procedure for DOE method | 16 |
| 3. | Discuss the various methods of proportioning. | 16 |
| 4. | Differentiate between nominal mix and design mix. | 16 |
| 5. | Compare ACI and IS method of concrete mix design. | 16 |

UNIT-IV : FRESH AND HARDENED PROPERTIES OF CONCRETE

Part-A (2 Marks)

1. Define fresh concrete.
2. Define workability.
3. What are the important parameters of workability?
4. What is the quality of concrete?
5. What are the factors affecting workability?

6. What are the tests are used the measurement of workability?
7. Define compacting factor.
8. Define flow percent.
9. Define segregation.
10. Define bleeding water percentage.

Part-B (16 Marks)

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| 1. | Discuss maturity of concrete? How is it measured? What are its practical uses in the concrete industry? | 16 |
| 2. | What are the various factors which affecting the workability of concrete? | 16 |
| 3. | Compare the relative merits and demerits of various workability tests. | 16 |
| 4. | Distinguish between segregation and bleeding of concrete. | 16 |
| 5. | What is re-vibration? Is it detrimental to concrete? Where is it practiced? | 16 |

UNIT-V : SPECIAL CONCRETES

Part-A (2 Marks)

1. Explain light weight concrete.
2. What are the adoptions of light weight concrete?
3. What are the different ways of achieving for light weight concrete ?
4. What are the types of natural light weight aggregates?
5. What are the types of artificial light weight aggregate?
6. Explain pumice.
7. Define Diatomite
8. Explain scoria.
9. Define volcanic cinders.
10. Explain rice husk.

Part-B (16 Marks)

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| 1. | What is the significant difference between mixture proportioning of normal weight and light weight concrete? | 16 |
| 2. | Why is lightweight concrete preferred for construction particulars in multi-storey building? Explain with respect to their physical characteristics of lightweight aggregate concrete. | 16 |
| 3. | Discuss the importance and effects of water absorption and moisture content of lightweight aggregate concrete. | 16 |
| 4. | Discuss the environmental impact of normal-weight and light- weight concrete. | 16 |
| 5. | List the aspects of HPC that are related to strength and durability separately. | 16 |