BHARATI VIDYAPEETH INSTITUTE OF TECHNOLOGY

Question Bank (K-Scheme)

Name of subject: Concrete Technology **Unit Test: I**
Subject code: 313322 **Course: CE**
Semester: III

Unit 1 -Cement

(2 Marks)

a. List four physical properties of OPC.

b. List four major components of cement with their percentage in ordinary Portland cement.

c. Define heat of hydration.

d. State different grades of Cement.

e. List any four type of Cement.

(4 Marks)

a. Explain the procedure to determine fineness by dry sieving method. State its IS requirement.

b. Define Adulteration of cement .Explain with respect to properties of concret.

c. State and Explain Field Test on Cement.

d. Give field application of different types of cement.

Unit -2 Aggregates

(2 Marks)

a. Define bulking of sand.

b. State four requirements good aggregates.

c. Classify aggregates with respect to shape & size.

d. Define Impact value , Abrasion value, Crushing value & flakiness index.

(4 Marks)

a. Calculate fineness modulus of sample using following data.Total weight of sample 1kg.

sieve	4.75	2.36	1.18	600	300	150	Pan
size	mm	mm	mm	micron	micron	micron	Micron
Weight retained (gm)	100	150	300	200	120	90	40

b. Define grading of aggregates? Explain well graded ,gap graded,poor graded aggregates.

c. Explain the procedure to determine silt content of sand sample.

d. Calculate the average crushing value of aggregates using following data.

Sr no	Description	Samples- A	B	C
1	Weight of oven dried sample.	3119	3246	3184
2	Weight of fraction passing 2.36 mm I.S.sieve	575	581	598

e. A sand sample has fineness modulus of 1.95. whether this sand can be used for concreting ? Explain the procedure to bring the fineness modulus in required permissible limits. State its importance.

f. Explain procedure for determination of water absorption of coarse aggregates.

g. Explain four properties of fine aggregates.

Unit-3 Concrete and its Testing

(2 Marks)

a. State Duff Abraham's water cement ratio law.

b. Define segregation & bleeding.

c. Give the sequence of Concreting Operations.

(4 Marks)

a. Suggest the degree of workability in terms of slump for the following:

i. Pavements using paves.

ii. Canal lining.

iii.Heavily reinforced section.

iv.In-situ piling.

b. State minimum grades of concrete for different conditions.

c. Explain in brief procedures for determination of compaction of concrete in laboratory.

d. Define impermeability of cement .Enlist factors affecting it.

e. What are the properties of hardened concrete & give effect of coarse aggregate on compressive strength of concrete.

f. Write significance of water cement ratio & factors affecting properties of concrete.

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