



GENERAL INSTRUCTIONS TO THE CANDIDATES

1. Candidates are instructed to answer the questions as per Bloom's Taxonomy knowledge level (K₁ to K₆)
2. Candidates are strictly instructed not to write anything in the question paper other than their roll number.
3. Candidates should search their pockets, desks and benches and handover to the Hall Superintendent/ Invigilator if any paper, book or note which they may find therein as soon as they enter the examination hall.
4. Candidates are not permitted to bring electronic watches with memory, laptop computers, personal systems, walkie-talkie sets, paging devices, mobile phones, cameras, recording systems or any other gadget / device /object that would be of unfair assistance to him / her.
5. Corrective measures as per KCT examination policies will be imposed for malpractice in the hall like copying from any papers, books or notes and attempting to elicit the answer from neighbours.

B.E DEGREE EXAMINATIONS: JUNE 2015

(Regulation 2014)

Second Semester

CIVIL ENGINEERING

U14CHT201: Chemistry for Civil Engineering

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. **Match:**

[K₂]

List I	List II
A. Sterilization	i. Alum
B. Coagulant	ii. Chlorination
C. Sedimentation	iii. Removal of dissolved gases
D. Aeration	iv. Suspended impurities

	A	B	C	D
a)	i	iv	iii	ii
b)	iv	ii	iii	i
c)	ii	i	iv	iii
d)	iii	iv	ii	i

2. A slow setting cement will have high percentage of [K₁]
- | | |
|-----------------------|------------------------|
| a) Gypsum | b) Free lime |
| c) Dicalcium silicate | d) Tricalcium silicate |
3. The strength of the concrete mainly depends on [K₁]
- | | |
|---------------------------------|-------------------------------|
| a) Water- cement ratio | b) Quality of fine aggregates |
| c) Quality of coarse aggregates | d) Fineness of cement |
4. Linseed oil is rapidly soluble in [K₂]
- | | |
|---------------|------------------|
| a) Naphtha | b) Alcohol |
| c) Turpentine | d) All the above |
5. Nylon is used for making [K₁]
- Dresses, socks, Carpets 2) Moulding for gears & bearings 3) Filaments for ropes
4) Insulating materials in electrical fittings
- | | |
|----------|----------|
| a) 1,3,4 | b) 1,2,4 |
| c) 1,2,3 | d) 2,3,4 |
6. The main reinforcing agent used in FRP composites are [K₁]
- | | |
|-------------|-----------------|
| a) Glass | b) Flakes |
| c) Whiskers | d) Particulates |
7. Assertion (A):HF etches glass [K₃]
Reason (R): HF reacts with silica and removes silica
- | | |
|---|---|
| a) Both A & R are correct but R is not the correct explanation of A | b) Both A & R are correct and the R is the correct explanation of A |
| c) A is correct & R is wrong | d) A is wrong & R is correct |
8. Metal surfaces should be carefully cleaned prior to coating because [K₂]
- | | |
|---------------------------|-----------------------------------|
| a) Less paint is required | b) Paint sticks to surface better |
| c) Colour is better | d) Coating applies easier. |
9. The major operations involved in the manufacturing of Portland cement are [K₁]
- | | |
|-------------|----------------------------|
| a) Grinding | b) Mixing of raw materials |
| c) Burning | d) All the above |

25. (i) Describe the preparation, properties and applications of polyamides and polycarbonates (8) [K₃]
- (ii) Elaborate on Metal matrix composites & Ceramic matrix composites (6) [K₂]
26. (i) List the important properties of refractories & explain. (8) [K₁]
- (ii) How are the following determined? (6) [K₂]
- (a) viscosity index
 - (b) Flash and fire point
 - (c) Cloud and pour point
