

SEM	SET	PAPER CODE	TITLE OF THE PAPER
VI	2012	11UCH630304A	ESSENTIAL OF GENERAL CHEMISTRY

SECTION – A**Answer all the questions:****20 x 1 = 20****Choose the correct answer:**

- Which of the following will react with phenol and gives bakelite polymer?
 - CO₂
 - CHCl₃
 - ArN₂X
 - HCHO
- The transition S₁ → S₀ is called as
 - internal conversion
 - inter system crossing
 - fluorescence
 - phosphorescence
- Which of the following is not a raw material for making ceramics?
 - clay
 - silica
 - sodium chloride
 - quartz
- The point group for NH₃ molecule is
 - C_{3v}
 - D_{3h}
 - C₃
 - C_{∞v}
- Which of the following laws says “only that light which is absorbed by a system can bring about a photochemical change”?
 - stark – Einstein
 - Newton
 - Grotthus – Draper
 - Ostwald

Fill in the blanks:

6. The reaction of carbonyl compounds with Grignard reagent affords a method for the preparation of _____.
7. The major application of the Barton reaction is the synthesis of _____.
8. Articles which are made up of clay are known as _____.
9. The substances which rotate the plane of polarized light are said to be _____.
10. Quantum yield of the hydrogen – chlorine reaction is _____.

State True or False:

11. Methylamine is a stronger base than ammonia.
12. Claisen rearrangement is an example for sigmatropic rearrangement.
13. Ceramics are brittle solids.
14. The point group for benzene molecule is D_{6h} .
15. The reverse of a photo chemical reaction is called as chemiluminescence.

Match the following:

- | | |
|-----------------------|----------------------|
| 16. Homolysis | - a) dipole moment |
| 17. Thermal reactions | - b) pottery |
| 18. Polar molecules | - c) collisions |
| 19. Porcelain | - d) photosensitizer |
| 20. Chlorophyll | - e) free radicals |

SECTION – B

Answer all the questions:

5 x 4 = 20

21. a. Write a note on synthons.

OR

b. Write a note on the stability of carbocations.

22. a. Explain Norrish Type 1 reactions.

OR

b. Discuss Paterno – Buchi reaction.

23. a. Discuss the optical properties of Ceramics.

OR

b. How Ceramics are classified? Explain.

24. a. Discuss the properties of a group.

OR

b. Write the symmetry elements present in the following:

(i) C_{2v} (ii) C_{2h}

25. a. Write a note on radiolysis of water.

OR

b. Discuss the radiolysis of Fricke dosimeter solution.

SECTION – C

Answer any FOUR questions:

4 x 15 = 60

26. Discuss the guidelines for good disconnections with appropriate examples.

27. Sketch Jablonski diagram and explain in detail the various processes involved in it.

28. Describe composite materials in detail.
29. Explain optical activity and dipole moment on the basis of symmetry.
30. Discuss the photochemical kinetics of hydrogen – bromine reaction and give the reasons for its low quantum yield.
