NUCLEAR INDYSTRIAL CHEMISTRY AND METALLIC STATE (III UG)

5 MARKS

1. Explain:

a) Nuclear force,

b) Nuclear stability,

c) Mass Defect.

2. Write notes on liquid drop model and shell model?

3. Define modes of decay-group displacement law.

4. Explain detection and measurement of radioactivity?

5. Write linear accelerator and cyclotron.

6. Briefly explain artificial radio activity.

7. Write notes on BCC, CCP, HCP.

8. Explain: crystal defect, stiochiometric and non stiochiometric defect?

9. Write notes N-type and P- type composition, properties structure and use?

10. Explain the phosphonitrilic polymers?

11. Write notes on composition properties and uses of beryl .

12. Define composition properties and uses of talc.

13. Explain natural gas gobar gas?

14. Write introduction raw materials and manufacturing method of afety matches .

15. Briefly explain Composition manufacture, types and uses?

10 MARKS

1. Account on radio activity emanations and characteristic of alpha, beta and gamma rays.

2. Briefly explain rate of integration and half-life period, disintegration series.

3. Explain: Wilson cloud chamber Geiger Muller counters?

4. Classification of nuclear reaction fission and fusion

5. Account on Semi conductors of intrinsic and extrinsic?

6. Briefly explain Hume-Rothery ratios, structure of alloys, substitional and interstial solid solutions

7. Account on classification into discrete anion and one, two, three dimensional structure with Examples of Silicates?

8. Briefly explain composition properties and uses of mica, feldspar and zeolite.

9. Explain manufacture of wet and dry process composition setting of cement

10. Discuss about manufacture of nitrogen, phosphorus, potassium and mixed fertilizer in plant life.