



12. (a) Explain the preparation of nano materials by sol-gel and chemical vapour deposition methods with neat diagrams.

Or

- (b) Explain the preparation of nano materials by electrochemical deposition and electro spinning methods with neat diagrams.

13. (a) With a neat diagram, describe the two component system with respect to lead and silver.

Or

- (b) Summarize on the properties and applications of metal matrix composite and ceramic matrix composite.

14. (a) Elaborate the manufacture of metallurgical coke by Otto Hoffmann method.

Or

- (b) Elaborate the analysis of flue gas by Orsat method.

15. (a) Explain the working principle and applications of wind energy and geothermal energy.

Or

- (b) Explain the working principle of lead acid battery and lithium-ion battery.