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| unit | No. of lectures for the topic | Week of month allotted | Topic |
| 3.1(a) | (11L) |  | Chemistry of lanthanides |
|  |  | 1st and 2nd week | Position in periodic table and electronic configuration of lanthanides and actinides |
|  |  | 3rd and 4th week + 1st week | lanthanide contraction & its consequences |
|  |  | 2ndweek | oxidation states of lanthanides |
|  |  | 3rd and 4th week | magnetic and speetral properties, ability to form complexes |
|  |  | 1st and 2nd week | occurence, extraction and separation of lanthanides. |
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|  |  | 3rd week | Lon exchange method |
|  |  | 4th week | Solvent extraction method. |
|  |  | 1st week | Applications of lanthanides in details |
|  |  | 2ndweek | Revision |
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| 2.2 |  |  |  |

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| unit | No. of lectures for the topic | Week of month allotted | Topic |
| 3.1(a) | (11L) |  | Chemistry of lanthanides |
|  |  | 1st and 2nd week | [Structure of Slid]  Introduction & Explanation of term in crystal Lattice lattice point constant, lattice cell |
|  |  | 3rd and 4th week + 1st week | closest packing in hcp, FCC. & CCP |
|  |  | 2ndweek | packing density in simple cube B.C.C. & F.C.C. & problems. |
|  |  | 3rd and 4th week | Relationship between density & radius & lattice parameter & problems |
|  |  | 1st and 2nd week | Defect [Frenkel & Schottlcy] |
|  |  |  | [Super concluctivity] |
|  |  | 3rd week | Introduction & Explanation of superconductivity, transition temp. superconductor, High temp.  super. alkali metal fallerides, applications |
|  |  | 4th week | Solvent extraction method. |
|  |  | 1st week | Applications of lanthanides in details |
|  |  |  |  |
| 2.2 |  |  |  |