| | <u>LESSON PLAN</u> |
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| NAME OF THE FACULTY | : SMT. ASTHA |
| DISCIPLINE | : ARCHITECTURAL ASSISTANTSHIP |
| SEMESTER | : 5 th |
| SUBJECT | : REINFORCED CEMENT CONCRETE |
| LESSON PLAN DURATION | : 15 WEEKS |
| WORK LOAD PER WEEK | : 06 |

| | | THEORY |
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| WEEK | LECTURE | |
| | DAY | TOPIC |
| | 1 | Introduction and Concept of Reinforced Cement Concrete (RCC) |
| 1st | 1. | introduction and concept of Reinforced Centent Concrete (Rec) |
| | 2. | Reinforcement Materials: - Suitability of steel as reinforcing material |
| | | - Physical properties of mild steel and HYSD/TMT steel |
| 2ND | 3. | Loading on structures as per IS: 875 |
| | 4. | Introduction to following methods of RCC design |
| 3rd | 5. | Working stress method, Limit state method |
| | б. | Shear and Development Length |
| 4тн | 7. | Shear as per IS:456-2000 by working stress method |
| | 8. | Shear strength of concrete without shear reinforcement |
| 5тн | 9. | Maximum shear stress, Shear reinforcement |
| | 10. | IST SESSIONAL TEST |
| 6тн | 11. | Basic assumptions of Singly Reinforced Beam (working stress method) |
| | 12. | Stress strain curve |
| 7тн | 13. | Neutral axis, balanced, under reinforcement and over reinforced beams, |
| | 14. | Moment of resistance for singly reinforced beam. |

| 8тн | 15. | Design of singly reinforced beam including sketches showing reinforcement details |
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| | 16. | Concept of Limit State Method (as per IS 456:2000) |
| 9тн | 17. | Definitions and assumptions made in limit state of collapse (flexure) |
| | 18. | Partial factor of safety for materials, Partial factor of safety for loads |
| 10тн | 19. | Design loads, Stress block diagram |
| | 20. | 2ND SESSIONAL TEST |
| 11тн | 21. | Theory and Design of singly reinforced beam by Limit State Method |
| | 22. | Doubly Reinforced Beams, Theory and design of simply supported doubly reinforced rectangular beam by Limit State Method |
| 12тн | 23. | Behaviour of T beam, inverted T beam, isolated T beam and 'L' beams (No Numericals) |
| | 24. | Theory and design of simply supported one way slab including sketches showing reinforcement details (plan and section) by Limit State Method. |
| 13тн | 25. | Theory and design of two-way simply supported slab with corners free to lift, no provisions for torsional reinforcement by Limit State Method including sketches showing reinforcement details (plan and two sections) |
| | 26. | Axially Loaded Column- Definition and classification of columns, Effective length of column, Specifications for longitudinal and lateral reinforcement |
| 14тн | 27. | Design of axially loaded square, rectangular and circular (with lateral ties only) short columns by Limit State Method including sketching of reinforcement (sectional elevation and plan) |
| | 28. | Concept of foundation: shallow and deep foundation, types and suitability of foundation (no numerical |