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KERALA AGRICULTURAL UNIVERSITY
B. Tech. (Agrl. Engg.) 2023 & Previous Admissions
IV Semester Final Re Examination – July 2026

Idea.2205

Design of Structures (1+1)

Marks: 50
Time: 2 hours

- I Fill in the blanks (10x1=10)**
1. Wind load shall be computed in accordance with IS :
 2. In under reinforce beam material will fail first.
 3. In design of tension member, permissible stress in axial tension is equal to
 4. Recommended value of effective length for compression member which is effectively held in position at both the ends but not restrained against rotation is equal to
 5. In working state method factor of safety for concrete is
- Define the following**
6. Rivet value
 7. IS Code
 8. Foundation
 9. Compression member
 10. Slab
- II Write short notes on ANY FIVE of the following (5x2=10)**
1. What are the advantages of steel as a reinforcement in RCC?
 2. State situations where doubly sections are used.
 3. State functions of foundation.
 4. What are the functions of transverse steel in column?
 5. What is mean by ISNT and ISJB?
 6. What are the advantages of welded connections?
 7. Write steps in design of Compression member.
- III Answer ANY FIVE of the following (5x4=20)**
1. State and explain any four types of loads acting on the structure.
 2. Calculate design constants for material concrete grade M-20 and Fe-415 steel reinforcement, by considering the balance design.
 3. State and explain modes of failure of R.C. sections.
 4. R.C. beam of rectangular section 230 mm wide and 369 mm effective is reinforced with 4 bars of 12 mm diameter in tension zone. Calculate the ultimate moment of resistance of the section The materials used are concrete grade M-20 and steel grade Fe-415..
 5. Calculate strength of ISA 40x25x6 mm when used as a tension member with its longer leg connected by fillet weld.
 6. Differentiate between tension member and compression member.
 7. State and explain methods of design of R.C section.
- IV Write an essay on ANY ONE of the following (1x10=10)**
1. Working stress method
 2. Column reinforcements
