

Reg. No. :

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Question Paper Code: U2102

M.E. DEGREE EXAMINATION, NOV 2024

Second Semester

CAD / CAM

21PCD202 - APPLIED MATERIALS ENGINEERING

(Regulations 2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

1. (a) Derive an expression for theoretical shear strength of a crystal and state why is it far less than the real shear strength? CO1- Ana (20)
Or
(b) The strength of resin and glass fibre are 120 and 800MPa, a composite of strength of 180Mpa is needed, find the amount of fibre to be added. CO1- Ana (20)
2. (a) What are the various types of failure cycles? Describe them with suitable figures and explain CO2-U (20)
Or
(b) Write note on low cycle fatigue test and its outcome. CO2- U (20)
3. (a) Explain the fracture of non metallic materials. CO3- U (20)
Or
(b) How the selection of materials is done by based on mechanical properties. Explain in detail. CO3-U (20)
4. (a) What are the constituents of a composite. Write note on Fiber reinforced plastics(FRP). CO4- U (20)
Or
(b) List the properties and applications of any four thermosetting plastics. CO4- U (20)

5. (a) Explain the various defects of casting. CO5-U (20)
- Or
- (b) Write Short note on functionality gradient materials. CO5-U (20)