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Question Paper Code:U5617

B.E./B.Tech. DEGREE EXAMINATION, APRIL / MAY 2025

Professional Elective

Structural Engineering

21PSE517 - SMART MATERIALS AND SMART STRUCTURES

(Regulations 2021)

Duration: Three hours

Maximum: 100 Marks

PART – A (5 x 20 = 100 Marks)

Answer All Questions

1. (a) Analyze the Feasibility of Smart Materials and Structures and CO1- Ana (20)
what are the steps involved in Smart city construction?
Or
(b) Analyze the selection and importance of factors involved in CO1- Ana (20)
construction of smart Structures.
2. (a) Examine the Pressure transducers in detail. CO3-App (20)
Or
(b) Examine in detail about Inductance involved in smart Structures. CO3-App (20)
3. (a) As a Engineer suggest the design and construction of Fibre Optic CO2-App (20)
Chemical Sensing Systems and Distributed measurement in
projects.
Or
(b) List out the challenges to be faced while installing advanced CO2-App (20)
technologies for Absorptive chemical sensors.
4. (a) Develop a strategy for Electromagnetic Actuation in smart CO3- App (20)
structures.
Or
(b) Examine in detail about Electromagnetic Actuation. CO3- App (20)

5. (a) How to implement the latest technologies with quality in smart signal processing? CO5- Eva (20)
- Or
- (b) Evaluate in detail about identification involved in Non-Linear in smart structures? CO5- Eva (20)