

B.E Construction Engineering 4th year 2nd semester examination 2022

Alternative Materials and Sustainable Construction (Hons)

EX/CON/PE/H/T/ 423B/2022

Part-I

Full Marks-35

Time – 4 hours

Assume relevant data if required

Answer Q-1 and any one question from rest.

Q-1.(a) Explain the concept of life cycle cost with reference to cold mix asphalt and traditional hot mix ? (8)

(b) Comment on the acceptability of indirect tensile test for use of cold mix asphalt on low volume road repair in the area with high rainfall intensity. (6)

(c) Comment on effect of temperature and humidity on performance of cold mix asphalt during laying the mix on road surface. (6)

Q-2 (a) Explain the procedure of bamboo preservation for its use in moist and humid situation. (5)

(b) Describe the properties of bamboo for its in structural purposes. (5)

(c) Explain use of bamboo as reinforcement in different structures. (5)

Q-3 (a) Comment on the use of bamboo as structural members in earthquake prone areas. (5)

(b) Describe the use of bamboo as compression member. (5)

(c) How the strength of cold mix asphalt can be improved for its use in high volume road pavement . (5)

Ref. No.: Ex/CON/PE/H/T/423B/2022

Subject Code: CON/PE/H/T/423

B.E. CONSTRUCTION ENGINEERING FOURTH YEAR SECOND SEMESTER EXAM 2022

SUBJECT: ALTERNATIVE MATERIALS AND SUSTAINABLE CONSTRUCTION (HONS.) Full Marks: 35

PART-II

Instructions:

1. Answer any FIVE questions
2. Illustrate your answers with neat sketches wherever necessary.
3. Figures to the right indicate full marks.
4. Assume suitable data if necessary.
5. Preferably, write the answers in sequential order

- Q1. Explain the concept of sustainable construction. (7)
- Q2. Enumerate three principal of sustainability. (7)
- Q3. Explain the criteria for sustainable building materials. (7)
- Q4. Describe Sustainable Construction techniques with reference to water systems store, recycle and reuse. (7)
- Q5. Enumerate the concept of Zero-Energy Buildings. (7)
- Q6. Comment on acceptability of Fly ash and Ferro cement as sustainable materials. (7)
- Q7. Explain sustainable development. Draw a schematic diagram of material flow in the building ecosystem. (7)