

CBCS SCHEME

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15NT743

Seventh Semester B.E. Degree Examination, Dec.2019/Jan.2020 Engineering Materials and Surface Coatings

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. What is adhesive? Explain the different terminologies on adhesives. (08 Marks)
b. Explain the functions of adhesives. (08 Marks)

OR

- 2 a. Explain advantages and disadvantages of adhesives. (08 Marks)
b. Explain the different types of forces available in the adhesives. (08 Marks)

Module-2

- 3 a. Write a note on :
(i) Animal based glue (ii) Plant based glue, (iii) Solvent based glue (iv) synthetic glue. (10 Marks)
b. Write a note on Phenolic Resins. (06 Marks)

OR

- 4 a. Write a note on :
(i) Contact adhesives (ii) Hot melt adhesives (iii) Reactive adhesives. (08 Marks)
b. Explain the properties and applications of acrylic adhesives. (08 Marks)

Module-3

- 5 a. Write a note on plasticizers and pigments. (10 Marks)
b. Explain about antioxidants and mould releasing agents. (06 Marks)

OR

- 6 a. Write a note on UV absorbers and optical brightening agents. (08 Marks)
b. Explain about slip agents, antistatic agents, flame retardants, and antiblocking agents. (08 Marks)

Module-4

- 7 a. Explain the properties and applications of lubricants. (10 Marks)
b. Write a note on (i) Primer (ii) Varnish resins. (06 Marks)

OR

- 8 a. Explain the different components of paints. (08 Marks)
b. Write a note on Shellac and Antifouling Paints. (08 Marks)

Module-5

- 9 a. Write a note on nano solder particles and nano conductive adhesives for nano electronics. (08 Marks)
b. Explain the importance of nanotechnology in paints, nanomaterials in coatings and their functions. (08 Marks)

OR

- 10 Elaborate the applications of nanotechnology in adhesives, paints and lubricants. (16 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.

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