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**Question Paper Code: 95906**

B.E./B.Tech. DEGREE EXAMINATION, AUGUST 2021

Fifth Semester

Chemical Engineering

19UCH306- Engineering Materials for Process Industries

(Regulation 2019)

Duration: 1:45 hour

Maximum: 50 Marks

PART A - (10 x 2 = 20 Marks)

**(Answer any ten of the following questions)**

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|---|-------|
| 1. Define ductility.  | CO1 R |
| 2. What is coefficient of linear thermal expansion?                         | CO1 U |
| 3. Mention the chemical properties of engineering materials                 | CO1 R |
| 4. What are the types of carbon steels available and write its composition. | CO2 R |
| 5. Mention the types of steel making process                                | CO2 U |
| 6. What are the advantages of alloying steel?                               | CO2 R |
| 7. What are the ores of Titanium?   | CO3 R |
| 8. Mention some properties of Aluminium.                                    | CO3 R |
| 9. What are the two different methods of production of production of zinc?  | CO3 R |
| 10. What are the types of glasses available for construction of materials   | CO4 R |
| 11. Mention some characteristics of polymers.                               | CO4 U |
| 12. Write the functional classification of ceramics                         | CO4 R |
| 13. What is the attachment mechanisms of bio ceramics.                      | CO5 U |
| 14. Mention some bio materials you may know.                                | CO5 R |
| 15. What are the space materials available?                                 | CO5 U |

PART – B (3 x 10= 30 Marks)

**(Answer any three of the following questions)**

16. Explain in detail about the chemical properties of the materials CO1- U (10)
17. Explain in detail about the factors affecting the selection of materials for engineering processes. CO2- U (10)
18. What are the alloys of chromium? and write its application in process industries. CO3- U (10)
19. How carbon can be effectively used for material of construction? CO4- U (10)
20. What are the unique characteristics of bio polymers and its applications? CO5- U (10)