USN					

BETCK205A

Second Semester B.E./B.Tech. Degree Examination, June/July 2025

Smart Materials and Systems

Max. Marks: 100

ime:3 hrs.

MCA

te: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M: Marks, L: Bloom's level, C: Course outcomes.

a. Briefly explain the types of Honey Combs. b. Discuss the physical properties of nano materials which are different from bulk (macro scale) materials. OR Q.2 a. What are polymers? Briefly explain and classify. b. With a chemical composition write the physical properties of GGBS. 10 L2 CO1 Module – 2 Q.3 a. What are the principles of prefabrication techniques and explain the advantages and disadvantages? b. Explain the production process of prefabricated structural elements. OR Q.4 a. List and explain classification of prefabricated system. D. Explain the standardization in detail and factors influencing standardization. Module – 3 Q.5 a. With neat figure explain working of piezoelectric force sensor and piezoelectric pressure sensor. b. What are Smart Materials? Explain its application in various fields? OR Q.6 a. Explain working of strain gauge and shear sensor with neat sketch. 10 L2 CO3 Module – 4		100	2. M. Marks , D. Bloom s level , C. Contse on comes			
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		OR			
Q.8	a.	What are the types of IBMS? Explain each briefly.			CO4
	b.	With a neat block diagram explain IBMS architecture.	10	L2	CO4
		Module – 5			
Q.9	a.	Explain Fused Deposition Modeling (FDM) with neat sketch and write any five application of FDM.	10	L2	CO5
	b.	Explain the process chain of 3D printing with a block diagram.	10	L2	CO5
		OR			
Q.10	a.	Summarize the history of additive manufacturing technology.	10	L2	CO5
	b.	List and explain the advantages of 3D printing.	10	L2	CO5
