Reg. No: 22B

VIT®

Vellore Institute of Technology

(Deemed to be University under section 3 of the UGC Act, 1956)

Final Assessment Test – November 2025

Course: **BMEE411L - Society 5.0**

Class NBR(s): **2341**

Slot: **B2+TB2**

Time: **Three Hours**

Max. Marks: **100**

- **KEEPING MOBILE PHONE/ANY ELECTRONIC GADGETS, EVEN IN 'OFF' POSITION IS TREATED AS EXAM MALPRACTICE**
- **DON'T WRITE ANYTHING ON THE QUESTION PAPER**

COs	CO Statements
CO1	Understand the four parallel key concepts of the society and the opportunities for cutting edge technologies to solve social issues without affecting individual's interest.
CO2	Demonstrate the importance of citizen oriented sustainable and smart cities to Society 5.0.
CO3	Examine the impact of technological advancement (from IoT to IoH) on Society 5.0 to attain happiness.
CO4	Apply the methodologies to solve the societal problems through industry and academia collaboration.
CO5	Comprehend the future of the data-driven society that Society 5.0 espouses.
CO6	Interpret how various agencies collaborates to forge a richer society.

BL – Blooms Taxonomy Level (1 – Remember, 2 – Understand, 3 – Apply, 4 – Analyse, 5 – Evaluate, 6 – Create)

Answer ALL Questions

(10 X 10 = 100 Marks)

1.	Analyze how merging of cyberspace with physical space transform society into a Knowledge-Intensive and Data-Driven Society as presented by Society 5.0 and discuss the challenges to be addressed in implementing Society 5.0.	CO2	BL3
2.	Present the functional link between Industry 4.0 and Society 5.0. Explain how the industrial advancements of Industry 4.0 provide the technological leverage necessary for Society 5.0.	CO1	BL3
3.a)	Critically analyze how habitat innovation can contribute to solving issues like homelessness, slum development, and lack of affordable housing. What are the key elements of the Habitat Innovation Framework that support these solutions?	CO4	BL4
	OR		
3.b)	Evaluate the impact of community participation and co-creation in the success of habitat innovation projects. How does the Habitat Innovation Framework promote social inclusion and equity through stakeholder engagement?	CO4	BL4
4.	Provide a critical assessment of the contribution of Smart Energy Systems (Smart Grids/Microgrids) to meeting a city's sustainability and resilience targets, detailing the key technical limitations and socio-economic challenges that impede their adoption.	CO2	BL3

5.a)	In the evolving urban data transmission in society 5.0, how does the IoH transition represent a distinct difference from the IoT foundation? Critically analyse the technical, logistical and ethical challenges posed by the integration of highly sensitive personal data into Society 5.0 framework.	CO4	BL5
	OR		
5.b)	Can decentralized and symbiotic data architecture (SADS) solve the challenges faced by data sharing and safeguarding citizen privacy? Justify your answer using by presenting required data and model.	CO4	BL5
6.	Present a simple model for building a habitat for 100 years of living. Evaluate the practical trade-offs required to pursue the goals of a Carbon-Free Society and designing urban infrastructure for 100 years of living.	CO4	BL4
7.	Critically assess the function of academic and research institutions in Society 5.0 technology deployment and its impact on citizens. Present the ways by which academic research can influence urban transformation to be inclusive and free from undue technological surveillance.	CO6	BL4
8.	Elaborate on the concept of a cashless society and the effects of this transition from a model of Private Ownership to a Collaborative Commons in a data-driven Society. Present the critical challenges involved in this transition.	CO3	BL3
9.	Provide the specific mechanisms necessary for ensuring accountability, prevention of algorithmic bias and systemic inequality in nonmonetary society.	CO5	BL3
10.	Specify the mechanisms needed for collaborative knowledge management that successfully translate a "Melting Pot of Ideas" into targeted solutions linked directly to the Sustainable Development Goals.	CO3	BL4

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