Duration: 3hrs   **[Max Marks:80]**

N.B. : (1) Question No 1 is Compulsory.

        (2) Attempt any three questions out of the remaining five.

        (3) All questions carry equal marks.

        (4) Assume suitable data, if required and state it clearly.

1		**Attempt any FOUR**	**[20]**
	a	List and explain the challenges in Generative Models	
	b	Differentiate between Bagging and Boosting ensemble technique	
	c	Differentiate between Generative and Discriminative modeling	
	d	Explain any two challenges associated with Generative Adversarial Network	
	e	Differentiate between Virtual Reality and Augmented Reality	
2	**a**	Explain self-supervised learning and meta learning with suitable examples	**[10]**
	b	Explain Random Forest algorithm with suitable example	**[10]**
3	**a**	Write a short note on Hidden Markov Models with suitable example	**[10]**
	b	Explain the working of Generative Adversarial Network with proper architecture diagram	**[10]**
4	**a**	Write a short note on Bayesian Network with suitable example	**[10]**
	b	Draw and explain the architecture of Variational Autoencoder	**[10]**
5	**a**	Explain the concept of Metaverse	**[10]**
	b	Explain the two transfer learning approaches	**[10]**
6	**a**	Explain any three variants of Generative Adversarial Network	**[10]**
	b	Explain any three variants of Autoencoders	**[10]**

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