Program:	T.Y.B.Sc. IT	**Semester:**	V	**Program Code:**	UGIT01
Course:	Internet Of Things			**Course Code:**	NUIT506
Duration:	1 Hour	**Examination Pattern:**	NEP-Autonomous External	**Max. Marks:**	30

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Draw neat diagrams wherever necessary.
4. CO (Course Outcome), KL (Knowledge Level).

Examination:

REGULAR

Q. 1		**Attempt any THREE of the following.**	[15]	CO's	KL's
	(a)	Define the term Internet of Things and summarize its three main operational categories along with any 2 applications.		CO1	L2
	(b)	Deconstruct the principle of "Magic as Metaphor" in interaction design. Examine four distinct enchanted objects from folklore/fiction and analyze how their physical affordances and expected behaviors guide the design of everyday smart devices.		CO1	L4
	(c)	Illustrate the following concepts using concrete IoT examples: a) Graceful Degradation b) Affordances		CO1	L2
	(d)	Explain the primary function of each networking component within an IoT stack: a) IPv4 b) IPv6 c) TCP d) UDP e) HTTPS		CO2	L2
	(e)	Evaluate the trade-offs between Cost and Ease of Prototyping. Justify scenarios where selecting a higher-cost rapid prototyping platform is preferable to custom hardware development.		CO2	L5
Q. 2		**Attempt any THREE of the following.**	**[15]**	**CO's**	**KL's**
	(a)	Compare and contrast Laser Cutting and 3D Printing based on material compatibility, execution speed, precision, and prototyping cost.		CO2	L4
	(b)	Define Application Programming Interface (API) and explain API Mashups using concrete examples.		CO2	L1
	(c)	Describe the purpose of the MQTT and CoAP protocols in IoT. Explain how each protocol helps connected devices communicate.		CO2	L2
	(d)	Describe the Business Model Canvas (BMC) and illustrate how its 9 key building blocks are used to structure an IoT product's launch.		CO3	L3
	(e)	Critique Venture Capital and Crowdfunding as financing strategies for an IoT startup, highlighting the trade-offs in equity, market validation, and control.		CO3	L5

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