GIET UNIVERSITY, GUNUPUR – 765022

B. Tech (Fifth Semester – Regular) Examinations, December – 2022
BPCCS5020 / BPCCT5020– Internet of Things
(CSE / CST)

Time: 3 hrs   Maximum: 70 Marks

Answer ALL Questions
The figures in the right hand margin indicate marks.

PART – A: (Multiple Choice Questions)   (1 x 10 = 10 Marks)

Q.1. Answer *ALL* questions   [CO#]   [PO#]

a. Which layer is CoAP?   1   1

i.	Control layer	ii.	Transport layer
iii.	Service layer	iv.	Application layer

b. Which is an open standard?   1   1

i.	HTTP	ii.	MQTT
iii.	XMPP	iv.	CoAP

c. HTTP expands?   2   1

i.	HyperText Transfer Protocol	ii.	HyperTerminal Transfer Protocol
iii.	HyperText Terminal Protocol	iv.	HyperTerminal Text Protocol

d. Data in network layer is transferred in the form of _____   2   1

i.	Layers	ii.	Packets
iii.	Bytes	iv.	Bits

e. Gateway provides the connection between _____ and _____   3   1

i.	Cloud and controller	ii.	Network and Cloud
iii.	Network and Controller	iv.	Controller and device

f. What is the main responsibility of application layer?   2   1

i.	Error handling	ii.	Web surfing
iii.	Virtual terminal	iv.	Network data sharing

g. AMQP stands for _____   2   1

i.	Advanced Message Queuing Protocol	ii.	Application Message Queuing Protocol
iii.	Advanced Mailing Queuing Protocol	iv.	Application Mailing Queuing Protocol

h. Security based connection is provided by which layer?   3   1

i.	Network layer	ii.	Session layer
iii.	Application layer	iv.	Transport layer

i. TCP and UDP are called _____   4   1

i.	Application protocols	ii.	Session protocols
iii.	Transport protocols	iv.	Network protocols

j. The network layer responds to request from which layer?   4   1

i.	Transport layer	ii.	Data layer
iii.	Application layer	iv.	Session layer

PART – B: (Short Answer Questions)   **(2 x 10 = 20 Marks)**

Q.2. Answer *ALL* questions

		[CO#]	[PO#]
a.	Write the advantages of IoT	1	1
b.	Define structured and unstructured data.	2	1
c.	Explain GPIO in raspberry Pi	2	1
d.	Define the terms: SPI, I2C	2	1
e.	What are the advantages of using Django?	3	1
f.	Write the method used for reading temperature and humidity in arduino programming.	3	2
g.	State the uses of settings.py and manage.py.	4	1
h.	Write the use of @app.route() and app.run() method in flask.	4	1
i.	Write the command for create super user in django.	3	1
j.	Write the process of url mapping in django.	3	1

PART – C: (Long Answer Questions)   **(10 x 4 = 40 Marks)**

Answer *ALL* questions

		Marks	[CO#]	[PO#]
3. a.	Explain with necessary block diagram for the physical and logical design of IoT	10	1	1
	(OR)			
b.	Illustrate various protocols in different layers of IoT wit suitable block diagram.	10	1	2
4. a.	Write the various types of IoT hardware available. Explain about Arduino in detail.	10	2	1
	(OR)			
b.	Explain various software used for various devices in IoT. Illustrate in detail the use of Arduino software for Interfacing sensors.	10	2	1
5. a.	Implement the following using flask:	10	3	2

       Home page (for a student portal)

       user_home page(to show the student dashboard.)

       Signup page (To add new student)

Note: Provide necessary validation for the page.

		Marks	[CO#]	[PO#]
	(OR)			
b.	Write the Arduino code to interface 7segment led display to show the even and odd digits after the delay of 1000ms.	10	3	2
6. a.	Give a detailed explanation of "Smart City" as a case study with suitable example.	10	4	2
	(OR)			
b.	Elaborate in detail with justification for the term "Wireless Sensor Network as IoT enabled Technology".	10	4	2

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