**P9032**

### Oct-22/TE/Insem - 564
### T.E. (Information Technology)
### INTERNET OF THINGS
### (2019 Pattern) (Semester - I) (Elective - I) (314445 D)

*Time : 1 Hour]*

*[Max. Marks : 30*

*Instructions to the candidates:*

1) *Answer Q.1 or Q.2, Q.3 or Q.4.*
2) *Neat diagrams must be drawn wherever necessary.*
3) *Figures to the right side indicate full marks.*
4) *Assume suitable data, if necessary.*

**Q1)** a) Define IoT and explain physical design of IoT. **[7]**

b) Explain IoT world Forum (IoTWF) standardized seven-layer IoT architectural reference model. **[8]**

**OR**

**Q2)** a) Explain enabling technologies in IoT. **[7]**

b) Write a short note on (Any Two): **[8]**

i) Software defined Networking

ii) Network function virtualization

iii) Wireless Sensor Networks

**Q3)** a) Define Sensor and explain types of sensors with examples. **[7]**

b) Write a short note on (Any Two): **[8]**

i) 12C bus protocol

ii) CAN bus protocol

iii) UART

iv) USRT

**OR**

**Q4)** a) Draw and explain interfacing of LED with ARDIUNO with program to blink it. **[7]**

b) Draw and explain interfacing of DC motor with ARDIUNO with program of speed control. **[8]**

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