

22588

12425

3 Hours / 70 Marks

Seat No.

--	--	--	--	--	--	--	--

- Instructions :**
- (1) All Questions are *compulsory*.
  - (2) Illustrate your answers with neat sketches wherever necessary.
  - (3) Figures to the right indicate full marks.
  - (4) Assume suitable data, if necessary.

**Marks**

**1. Attempt any FIVE of the following :**

**10**

- (a) Define IoT. Give one example.
- (b) List basic components of sensor network.
- (c) List different IoT physical devices.
- (d) Give any two applications of IoT for Agriculture.
- (e) List ideal ethics for IoT.
- (f) List applications of Environment in IoT.
- (g) Compare IoT and M2M.

**2. Attempt any THREE of the following :**

**12**

- (a) Explain the Role of Things and Internet in IoT.
- (b) Give in detail application of Internet of Things in home automation.
- (c) Explain functional view specification for Home Automation IoT System.
- (d) List and explain Raspberry pi interfaces.



- 3. Attempt any THREE of the following : 12**
- (a) Explain IoT Communication API's.
  - (b) List out the various steps involved in IoT system design methodology.
  - (c) With neat block diagram explain an IoT Device.
  - (d) Write IoT application used in health and fitness monitoring.
  - (e) Explain privacy in IoT.
- 4. Attempt any THREE of the following : 12**
- (a) Give different Protocols of IoT and explain any one in brief.
  - (b) Explain interfacing of Arduino with sensor.
  - (c) Explain architectural constraints of REST.
  - (d) Explain applications of IoT for Retail.
  - (e) Describe Process specifications for Home Automation IoT Systems.
- 5. Attempt any TWO of the following : 12**
- (a) Describe role of Cloud Computing and Big Data in Internet of Things.
  - (b) Define Middleware. Explain any one middle ware in detail. Give Middleware application example.
  - (c) Explain the following :
    - (i) Open-source hardware
    - (ii) Arduino with any 2 specifications
- 6. Attempt any TWO of the following : 12**
- (a) Differentiate Raspberry with Arduino.
  - (b) Describe with an example Internet of Things as a part the solutions.
  - (c) Explain the various emerging IoT applications.
-