28. a.	Describe how best fit heuristic algorithm works in allocation of works.	10	2	3	1
	(OR)				
b.	Explain in detial Particle Swarm Optimization (PSO) and compare it with a bio inspired with an example.	10	2	3	2
29. a.	Explain the contributions of green IOT in large scale.	10	2	4	2
	(OR)				
b.	Compare the various approaches to achieve green IOT techniques.	10	2	4	1
30. a.	List out the issues related to communication technology and information extraction.	10	2	5	1
	(OR)				
b.	Explain how weather monitoring using Bluetooth low energy is useful in warehouses?	10	2	6	4

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Reg. No.														

B.Tech. DEGREE EXAMINATION, MAY 2022

Sixth Semester

18CSE448T – ENERGY MANAGEMENT FOR INTERNET OF THINGS DEVICES

(For the candidates admitted from the academic year 2018-2019 to 2019-2020)

Note:

(i) **Part - A** should be answered in OMR sheet within first 40 minutes and OMR sheet should be handed over to hall invigilator at the end of 40th minute.

(ii) **Part - B** should be answered in answer booklet.

Time: 2½ Hours

Max. Marks: 75

PART – A (25 × 1 = 25 Marks)

Answer **ALL** Questions

		Marks	BL	CO	PO
1.	The term "internet of things" was coined by? (A) Kevin Ashton (B) Guido von Rossum (C) IBM (D) Ross Ihaka	1	1	1	1
2.	_____ tends to convert electrical signal to physical action. (A) Actuator (B) Compiler (C) Sensor (D) Motors	1	1	1	1
3.	How many main components IoT consists of? (A) 2 (B) 3 (C) 4 (D) 5	1	1	1	1
4.	_____ layer is the communication layer that connects the iot devices with WAN (A) Internet layer (B) Application layer (C) Sensor layer (D) Network layer	1	1	1	1
5.	Identify which category could be used by citizens to contribute to a smart city? (A) Personal IoT (B) Group IoT (C) Community IoT (D) Industrial IoT	1	1	2	2
6.	Examine which one of this is not a networking device. (A) Router (B) Switch (C) Bridge (D) Traffic analyzer	1	1	2	2
7.	Conclude which of the following is not an advantage of IoT? (A) Improved customer engagement (B) Security (C) Reduced waste (D) Enhanced data collection	1	1	2	2
8.	Justify, why data volume is a problem in IoT-based cloud computing? (A) Because data are encrypted and hart to analyze (B) Because data coming from IoT devices are always in raw format and difficult to store (C) Because the density of IoT devices is increasing each day and introduce the volume of generated data growing fast (D) Because IoT device density is decreasing each day	1	1	2	2

9. Identify about the objective of energy management includes. 1 1 2 2
   (A) Minimizing energy costs (B) Minimizing waste
   (C) Minimizing environmental degradation (D) Minimizing energy, waste, environment degradation

10. Horizontal axis and vertical axis are types of 1 1 6 2
   (A) Nuclear reactor (B) Wind mills
   (C) Biogas reactor (D) Solar cell

11. The energy efficient algorithm that deals with load distribution on server end is 1 1 3 1
   (A) Load balancing algorithm (B) Genetic algorithm
   (C) Particle swarm optimization (D) And colony optimization

12. Identify the techniques and algorithm that deals with energy conservation in data centres. 1 1 3 1
   (A) Static load balance algorithm (B) Dynamic load balance algorithm
   (C) Sleep/wave up scheme (D) Static and dynamic energy management

13. Choose the algorithm which search the whole network and identify the server which has less connections and load compared to other servers, are _____. 1 1 3 2
   (A) Static load balance algorithm (B) Dynamic load balance algorithm
   (C) First fit decreasing algorithm (FFD) (D) Modified best fit decreasing algorithm (MBFD)

14. Choose the algorithm in which the VMs are sorted form higher to lower order based on the current utilizations of CPU. 1 1 3 2
   (A) Best fit heuristic algorithm (B) Dynamic voltage frequency scaling
   (C) First fit decreasing algorithm (FFD) (D) Modified best fit decreasing algorithm

15. "HGAPSO" is 1 1 3 1
   (A) Hybrid genetic algorithm and particle swarm optimization (B) Hybrid genetic algorithm and process swarm optimization
   (C) Hybrid genetic algorithm and particle simulated optimization (D) Hybrid genetic algorithm and process simulated optimization

16. The one which is used to find the fitness of each individual particle that leads to a feasible solution to the problem present in cloud 1 1 3 3
   (A) Particle swarm optimization (B) Ant colony optimization
   (C) Best fit heuristic algorithm (D) Genetic algorithm

17. Discover the statement does not fit to genetic algorithm is 1 1 3 3
   (A) Try and build solutions by introducing evolution and selection
   (B) Methods, based on the theory of natural selection
   (C) Method for genetically modifying AMS to do the work
   (D) A heuristic search method used in AI and computing

18. A smart storage area having RFID tag to track item in it comes under 1 1 4 1
   (A) Smart home (B) Food supply chain
   (C) IoT in smart city (D) IoT in transport

19. The most significant challenge that will face in implementation of IoT will bc 1 1 4 2
   (A) Energy (B) Resource
   (C) Communication (D) Signal

20. Usage of passive RFID comes under the implementation of green IoT in 1 1 4 1
   (A) Sensors level (B) Data centers level
   (C) Communication level (D) Cloud computing level

21. Selective sensing can be done in the taxonomy of green IoT in 1 1 4 1
   (A) Sensors (B) Data centers
   (C) Smart buildings (D) Cloud computing

22. A hardware based mechanism that can be implemented in integrated circuits is 1 1 4 2
   (A) Sleep/ Aware scheme (B) Reduce network traffic
   (C) Assigning tasks (D) Workload distribution

23. Data collected from various parts of the building to work collaborating in a smart building is 1 1 6 2
   (A) Less practical (B) Impossible
   (C) Highly practical (D) Practical

24. The trade off experienced in the data center in context aware allocation 1 1 6 2
   (A) Extra resources needed (B) Communication delay
   (C) Privacy (D) Quality of service

25. What is the full form of ITS? 1 1 5 1
   (A) Intellectual transit scheme (B) Intelligent transport structure
   (C) Intellectual transport system (D) Intelligent transport system

PART – B (5 × 10 = 50 Marks)

Answer **ALL** Questions

		Marks	BL	CO	PO
26. a.	List out the applications and challenges of IOT.	10	2	1	1
	(OR)				
b.	Classify the various energy management techniques in IOT.	10	2	1	1
27. a.	Enumerate how sleep / wave up scheme, data driven scheme is efficient in conserving energy.	10	2	2	2
	(OR)				
b.	Interpret the various issues of energy conservation in IOT.	10	2	2	1