Question Paper for Minor Examination (ISA-1)		
Course Code: 17ECSE303	**Course Title: Internet of Things**	
Duration (H:M) : 1:15	**Date: 20/05/2021**	
Max. Marks : 40		
	Note: Answer Any Two Full Questions	
Q.No	Questions	Marks
1a	Consider a scenario of building Wildlife monitoring system to keep track of animal movement patterns, habitat utilization, and population demographics. The tag attached to wild animals should contain transmitter, which operates at low energy and send a signal to base station, which is located at the approximate distance of 40 kms. Identify and explain the type of Network to be implemented among these IoT objects to achieve long range (15-40 kms) communication.	10
1b	Construct a DODAG tree using the given scenario • A multicasts DIOs that it's member of DODAG ID itself with Rank 0. • B, C, D, E, F hear and determine that their rank (distance) is 1, 1, 2, 3, 3, respectively from A. • B, C, D, E, F send DAOs to A.	10

• B, C, D, E, F hear and determine that their rank (distance) is 1, 1, 2, 3, 3, respectively from A.
• B, C, D, E, F send DAOs to A.
• A accepts all .
• B and C multicast DIOs.
• D, E, F hears those and determines that its distance from B and C is 1, 2, 2.
• D sends a DAO to B.
• B sends a DAO-Ack to D.
• D multicast DIOs.
• E, F hears those and determines that its distance from D is 1, 1.
• E sends DAO to D
• D sends a DAO-Ack to E
• F sends DAO to D
• D sends DAO-Ack to F

2a	Explain how series of raw sensor measurements are inferred in an IoT System by applying a Data analytics technique to build a Weather Monitoring Application.	10

2b	Explain the following: 1. Mesh-under technique. 2. Advantages of IPv6 over IPv4	10
3a	Explain the role of each layer in the IoT Ecosystem for building Smart solutions.	10
3b	Since the beginning of the pandemic, the advice has been to keep at least 6 feet away from other people indoors and outdoors. Stay safe in workplaces and public spaces with 'SOCIAL DISTANCE', a social distancing and contact tracing SaaS solution that uses IoT Technology can help you ensure that people remain socially distant with the use of one product with two key functionalities: the unique social distance sensors that make contact tracing feeds to the cloud and social distancing alerts, to stop the spread of the virus. Explain in detail which IoT level would be suitable for the given scenario?	10