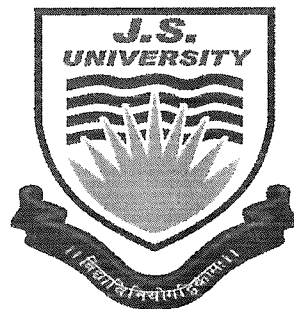


J.S. University, Shikohabad

Established by UP Govt. Act No. 07 of 2015

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Value Added Course

WIRELESS SENSOR NETWORKS

Faculty of Information Technology



J.S. University, Shikohabad
Faculty of Information
Technology

Value Added Course

AY: 2018-19

WIRELESS SENSOR NETWORKS

Learning Outcome:

- Identify different issue in wireless ad hoc and sensor network
- Stabilized a sensor network environment for different type of application.

Duration: 30 Hours. (Theory and Practical)

Course Outcome

- Technical knowhow in building a WSN network.
- Analysis of various critical parameters in deploying a WSN

MODULE-1

(5Hrs)

Introduction to wireless sensor Networks Advantages of ad-hoc/sensor networks, Unique constraints and challenges-. Applications Platforms for WSN: Sensor node hardware: mica2, micaZ, tclousB, cricket, Imote2, tmote, btnode:.

MODULE-2

(5Hrs)

Sensor node software (Operating System): tinyDS, MANTIS, Contiki and RetOS, Programming tool: C, nesC .Single-Node Architecture. WSN coverage and placement: Coverage problems in WSN Type of coverage — OGDC coverage Algorithm- Placement Problem.

MODULE-3


(5Hrs)

Topology management in wireless sensor Networks-; Different Classification of topology management Algorithms- topology discovery-sleep cycle management. Medium access control in wireless networks.

MODULE-4

(5Hrs)

Routing in sensor networks: Data centric-'position based routing- data aggregation- Clustered based routing Algorithms .Congestion and flow control: Source of congestion-

	J.S. University, Shikohabad Faculty of Information Technology	Value Added Course
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congestion control scenarios- Protocols for congestion and flow, control in sensor networks: ESRT-CODA-PSFQ-RCRT-RMST Fusion.

MODULE -5

(3Hrs)

usage of sensors on Medical devices (like accelerometer and gyroscope) and study of their performance. Research Paper Discussion and Presentation


MODULE-6

(7Hrs)

Basics of NS2: About NS2 and NAM, Purpose and Installation, Background and architecture, OTcl and C++ interfaces, Trace files and formats, Protocol support for NS2 Simulation object, Basic Syntax, Node creation, Finish procedure, Running NS2 and NAM, Invoking external commands within NS2.

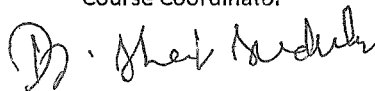
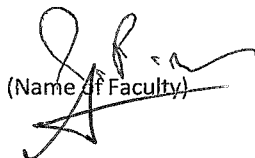
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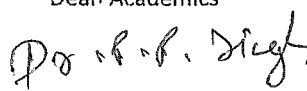

(Name of Faculty)

Course Coordinator

(Name of Faculty)

Dean Academics

(Name of Faculty)

Director/Principle/Dean of
 Faculty/Principle/Dean

