



NallamuthuGounderMahalingam College

(An Autonomous Institution, Affiliated to Bharathiar University)

90, Palghat Road, Pollachi - 642001, Coimbatore, Tamil Nadu, India.

95th Rank in NIRF - 2023 - Among Colleges in India.



Certificate for Advanced Learners Course offered in the Syllabus

This is to certify that enclosed list of students have cleared Advanced Learner Course offered in the Syllabus. The Enclosed list starts from **Page 2 to 6** and is hereby duly certified.

Criterion:2.2.1




Principal
PRINCIPAL
N. G. M. COLLEGE, POLLACHI



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Criterion II: - Teaching Learning and Evaluation

Key Indicator: 2.2

Metric: 2.2.1

Advanced Learner course offered in the Syllabus (Sample)

S.No.	Particulars	Page No.
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3	List of students who Cleared Advance Learner Course	5-6



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Pollachi

09.11.2023

From,

Dr. K.Haridas,
Head, Department of Computer Applications
NGM College,
Pollachi

To,

The Principal,
NGM College,
Pollachi.

Respected Sir,

SUB: Requisition to conduct Advanced Learners Course End Semester Exam- Reg.

I Wish to conduct exam for Advanced Learners Course – I : Adhoc and Sensor Networks [21UBC5AL] - for 27 students studying in Third year [2021-2024 batch]. Kindly permit us to conduct End Semester Exam on 24.11.2023[FN].

Thanking You,

Yours Truly,

ALE

permitted
Extra Credit Course

Note: Mr. Boopathy

Ms. Tamil

15/11/23

Haridas

Haridas



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Programme Code:	BCA		Programme Title:	Bachelor of Computer Applications
Course Code:	21UBC5AL		Title:	Advanced Learner Course – I: Adhoc And Sensor Networks - Self Study
Lecture Hrs./Week	5	Tutorial Hrs./Sem	Batch:	2021-2022
			Semester:	V
			Credits:	04**

Course Objective

To study the protocols and the functionalities of ad hoc networks, understanding the various applications developed based on ad hoc networking, addressing issues and challenges created. To learn about the sensor networks and addressing the challenges in establishing infrastructure for sensor networks and managing database.

Course Outcomes (CO)

Upon completion of this course students shall be able to

CO Number	CO Statement	Knowledge Level
CO1	Understand the Fundamental Concepts and applications of ad hoc and wireless sensor networks	K1
CO2	Demonstrate the MAC protocol issues of ad hoc networks	K2
CO3	Apply the concepts of network architecture and MAC layer protocol for WSN	K3
CO4	Analyze the routing protocols for ad hoc wireless networks with respect to TCP design issues	K4
CO5	Explain the WSN routing issues by considering QoS measurements	K5

Mapping

PO/ PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CO1	H	H		H	H	H	H	H		H	H	H
CO2				M		M		H			M	M
CO3	H	H		H	H	H	H	M	H	H	H	H
CO4				M			M	H	M	H	H	H
CO5	M			M	H	H	M				M	M

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Units	Content	Hrs
Unit I	Introduction to adhoc & sensor networks; Key definitions of adhoc and sensor networks- unique constraints and challenges- advantages of ad-hoc/sensor network-driving applications- issues in adhoc wireless networks- issues in design of sensor network- sensor network architecture- data dissemination and gathering.	15
Unit II	Issues in designing MAC protocols for adhoc wireless networks- Design Goals of MAC protocol for Ad hoc Networks - Classification of MAC protocols - MAC protocols for sensor network- Contention Based Protocols - Reservation and Scheduling Mechanisms - Other Protocols.	15
Unit III	Routing protocols for Ad hoc wireless Networks- Design Issues and Classifications of unicast and multicast Routing Protocols - Proactive- Reactive and Hybrid routing protocol – Tree based and Mesh based multicast protocols- Energy Efficient and QoS guaranteed multicast protocols.	15
Unit IV	Security in wireless Ad hoc wireless Networks-Network security requirements-challenges in security provisioning-Network security attacks- Layer wise attacks in wireless sensor networks: jamming- tampering- black hole attack- flooding attack-Secure routing in Ad hoc wireless Networks.	15
Unit V	Quality of service in Ad hoc wireless Networks: Introduction-challenges in providing QoS in Ad hoc wireless Networks- Classification of QoS solutions- MAC layer solutions-network layer solutions.	15
Total Contact Hrs		75

*The topics given in *Italics* are noted as Self-Study topics.

Pedagogy and Assessment Methods:

Seminar, Power Point Presentation, Chalk and talk, Quiz, Assignments, Group Task.

H. Kumar
Dr. K. HARIDAS, M.C.A., M.Phil., Ph.D.,
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List of Advanced learners for the Academic year 2022-2023[ODD]

S.No	Reg.No	Name of the students	Class	Name of the Activity	Date of the Activity	Signature of the student
1	21-BC-011	GOKULNATH B	D3-A	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023 - FN	B.Gokulnath
2	21-BC-019	MOHAMMED RIYAZ M	D3-A	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	M.Riyaz
3	21-BC-024	PRAVEEN RAJ S	D3-A	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	P.Raj
4	21-BC-030	SATHISHKUMAR S A	D3-A	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	S.Sathishkumar
5	21-BC-031	SIVAKUMAR K	D3-A	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	Sivakumar
6	21-BC-035	UDHAYARAJ K	D3-A	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	K.Udhayaraj
7	21-BC-047	GNANASOUNDARI S	D3-A	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	G.Nanasoundari
8	21-BC-052	MUBEENA PARVEEN J	D3-A	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	J.Mubeena Parveen
9	21-BC-053	MUBHASHIRA F	D3-A	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	M.Mubhashira
10	21-BC-054	POORNIMA V	D3-A	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	Poornima.v
11	21-BC-056	SIVADURGA S	D3-A	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	S.Sivadurga
12	21-BC-058	SRIKAMATCHI S	D3-A	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	S.Srikamatchi
13	21-BC-062	ARUNKUMAR S	D3-B	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	A.Arunkumar
14	21-BC-067	DEEPAK BASKAR N	D3-B	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	N.Deepak
15	21-BC-070	GOKUL K	D3-B	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	Gokul
16	21-BC-082	PRASATH K	D3-B	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	Prasath
17	21-BC-083	PRATHAP K K	D3-B	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	K.Prathap
18	21-BC-093	VARATHARAJ E	D3-B	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	Varatharaj



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19	21-BC-094	VETHURAM A	D3-B	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	Vethuram
20	21-BC-099	ARCHANAPRIYADHARS HINI B	D3-B	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	
21	21-BC-101	GAYATHRI T	D3-B	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	Gayathri
22	21-BC-106	KOWSALYA P	D3-B	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	Kowsalya
23	21-BC-108	MOHANAPRIYA S	D3-B	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	Mohanapriya
24	21-BC-112	PRAGATHEESWARI B	D3-B	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	Pragathi
25	21-BC-114	RAMYA S	D3-B	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	Ramya
26	21-BC-116	SIVAMALINI A	D3-B	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	Sivamalani
27	21-BC-118	SUBHA K	D3-B	21UBC5AL - ADHOC AND SENSOR NETWORKS	24.11.2023	Subha

Attach the relevant documents for each activity (Geo tag Photos/Video /Report/Invitation/Agenda)

Signature of the Head

Dr. K. HARIDAS, M.C.A., M.Phil., Ph.D.,
Associate Prof. & Head,
Department of Computer Applications,
N.G.M. College (Autonomous), Pollachi - 642 001.

Signature of the Principal

Dr. R. MUTHUKUMARAN,
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PRINCIPAL
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