



PARVATHANENI BRAHMAYYA SIDDHARTHA COLLEGE OF ARTS & SCIENCE

Siddhartha Nagar, VIJAYAWADA - 520 010, Andhra Pradesh
Autonomous, NAAC A+ Grade, ISO Certified Institution



2. 2 Catering to Student Diversity

2.2.1 The institution assesses the learning levels of the students and organizes special Programmes to cater to differential learning needs of the student

SUPPORTING DOCUMENTS

(as reflected in the administrative and academic activities of the Institution)



INDEX

S.NO	ACTIVITIES	PAGE NO
(I)	Activities for Slow Learners	3
1	Remedial Classes	3
2	Assignments	3
3	Question Banks	7
4	Counselling	11
5	Mentor -Mentee System	12
(II)	Activities for Advanced Learners	15
1	Research articles	15
2	Conferences	18
3	Certificate Courses	21
4	Projects and Internships	21
5	Awards and Scholarships	23
6	Student Innovations	24
7	Higher Education	25
8	Seminars	27

2. 2 Catering to Student Diversity

2.2.1 The institution assesses the learning levels of the students and organises special Programmes to cater to differential learning needs of the student

At P.B.Siddhartha College of Arts & Science, we judge in outcome-based learning processes, where as the institution categorize students as Slow Learners and Advanced Learners based on the, *Class Interaction, Test Performances, Laboratory Performance* and their *Achievements in Various Events*.

Activities for Slow Learners	Activities for Advanced Learners
1.Remedial Classes	1.Research articles
2.Assignments	2.Conferences
3.Question Banks	3.Certificate Courses
4.Counselling	4.Projects and Internships
5.Mentor -Mentee System	5.Awards and Scholarships
	6.Student Innovations
	7.Higher Education
	8.Seminars

A. **Slow Learners:** Faculty members at the institute, give emphasis on improving the performance of slow learners by providing *Remedial Coaching* and *Conducting Periodical Tests, Providing Additional Laboratory Hours* which are conducted outside *Regular Classes*. Specifically, for difficult subjects classes are taken for students who have failed in the exam where the faculty spares time to sit with those students individually to cope up with the subject.

(i) **Remedial Classes Details:** 36 members were given remedial coaching from all the three groups; M.C.A, M.Sc(CS) & M.Sc(CDS).

Proofs of Remedial Registers:

Class :		Course Code :																											
Roll No.	Date	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70			
20CAIT3		SOFTWARE ENGINEERING																											
		VV RAMANA																											
		TIME:- 9AM TO 9.45AM																											
21MCA08		G. SUSAN JOY																											
21MCA18		M. SAI KUMAR																											
21MCA44		P. MOUNIKA																											
21MCA65		K. KORESH BABU																											

M. Bhadraraj . 2018-19.

Class :

Course Code : CSCT52 DBMS III Impes/mcs

Roll No.	Date	36	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	
151302	E. Naveen								25/11/18	26/11/18	27/11/18	28/11/18	29/11/18	30/11/18	1/12/18	2/12/18	3/12/18	4/12/18									
161303	K. Sivakumar								1	2	3	4	5	6	A	A	7	8									
330	V. Kranthikumar								1	2	3	4	5	6	A	A	7	8									
336	M. Neeraj								1	2	3	4	5	6	7	8	9	A									
338	R. Pavankumar								1	2	A	3	4	A	A	5	6	7									
346	Y. Akhil Sai								1	2	3	4	A	5	6	7	8	9									
352	B. Manikanta								1	2	3	4	5	6	7	A	A	8									
354	C. Sachaswaroop								1	2	3	4	A	A	5	6	7	8									
357	P. Rajesh Gowd								1	2	A	A	3	4	5	6	7	8									
367	K. Sarath								1	2	3	4	5	6	7	8	A	A									
374	S. K. Shubhraj								A	2	3	4	A	5	6	7	A										
151308R									A	A	A	A	1	2	3	4	5										
151337R									A	A	1	2	3	4	5	6	7	8									
151358R									A	A	1	2	3	4	5	6	7	8									
164312	G. Prudhvisumanth								2	3	4	A	A	5	6	7	8										
164340	K. Venkateswara								2	3	4	5	A	A	A	A	A										
164384	S. Jayateja								A	A	A	1	2	3	4	5	A	A									

Topics covered

1. Advantages & disadvantages of DBMS.
2. Relational Algebra
3. ER model
4. SQL queries
5. I, II, III, IV Normal forms.

- (ii) **Assignments:** To bridge the gap between the student's study at college and home assignments are given to the students. It helps in understanding a topic which makes it easy to prepare for the future final examination. Nevertheless, assignment learning helps the student to develop essential skills such as analytical skills, time management skills, writing skills and research skills. Proof for list of assignments given :

Department of Computer Science :: P.B.Siddhartha College of Arts & Science							
List of Assignments							
Program	Academic Year	Sem ester	Course	Course Code	Name of the Faculty	Signature of Faculty	Signature of HoD
MCA	2022-2023	III	Cryptography and Network Security	20CA3T5	R Jayamma	<i>R Jayamma</i>	<i>M.S.K. 20/09/2023</i>
S.No.	Reg. No	Assignment Topic				Signature of Student	
1	21MCA01	Computer Security Concepts				<i>Lakshmi</i>	
2	21MCA03	Security Attacks				<i>S.N.S. 110</i>	
3	21MCA04	Security Services				<i>Digvijay</i>	
4	21MCA05	A Model for Network Security.				<i>T. Jay</i>	
5	21MCA06	Symmetric Cipher Model				<i>K. Lakshmi</i>	
6	21MCA07	Substitution Techniques				<i>B. Lakshmi</i>	
7	21MCA08	AES				<i>S. Jay</i>	
8	21MCA09	Divisibility and the Division Algorithm,				<i>R. Jay</i>	
9	21MCA10	The Euclidean Algorithm				<i>R. Jay</i>	
10	21MCA11	Fermat's and Euler's Theorems				<i>K. Jay</i>	
11	21MCA12	The Chinese Remainder Theorem				<i>M. Jay</i>	
12	21MCA13	Principles of Public Key Crypto Systems				<i>A. Jay</i>	
13	21MCA14	The RSA Algorithm with two examples				<i>Y. Jay</i>	
14	21MCA15	Key Management				<i>S.K. Jay</i>	
15	21MCA16	Elliptic Curve Cryptography				<i>T. Jay</i>	
16	21MCA17	Message Authentication Codes				<i>B. Jay</i>	
17	21MCA18	HMAC				<i>M. Jay</i>	
18	21MCA19	Digital Signatures				<i>A. Jay</i>	
19	21MCA20	Symmetric Key Distribution Using Asymmetric Encryption				<i>S.K. Jay</i>	
20	21MCA21	Distribution of Public Keys				<i>D. Jay</i>	

P.B.Siddhartha College of Arts & Science:: Department of Computer Science								
List of Assignments								
Program	Academic Year	Semester	Course	Course Code	Name of the Faculty	Signature of Faculty	Signature of HoD	
M.Sc.(Mathematics)	2021-2022	III	Problem Solving using Python Programming	20OE07	Dr.T.S.Ravi kiran	<i>[Signature]</i>	<i>[Signature]</i>	
S.No.	Reg. No	Assignment Topic					Signature of Student	
1	20401	1. Write a program to read and print values of variables of different data types. 2. Write a program to calculate the distance between two points.						
2	20402	1. Write a program to perform addition, subtraction, multiplication, division, integer division 2. Write a program to calculate tax given the following conditions: If income is less than 1,50,000 then no tax If taxable income is Rs.1,50,001 - Rs.300,000 then charge 10% tax If taxable income is Rs.3,00,001 - Rs.500,000 then charge 20% tax If taxable income is above Rs.5,00,001 then charge 30% tax					<i>B.Jashmitha</i>	
3	20403	1. Write a program to calculate roots of quadratic equation 2. Write a program to enter the marks of a student in four subjects. Then calculate the total and aggregate, and display the grade obtained by the student. If the student scores an aggregate greater than 75%, then the grade is Distinction. If aggregate is 60 >= and = and = and					<i>B.Santosh Raju</i>	
4	20404	1. Write a program to read the numbers until -1 is encountered. Find the average of positive numbers and negative numbers entered by the user 2. Write a program to find whether the given number is an Armstrong number or not					<i>Chubhan</i>	
5	20405	1. Write a program to print the reverse number. 2. Write a program to calculate GCD of two numbers.					<i>[Signature]</i>	
6	20406	Write a program (a) To calculate the factorial of number (b) To calculate GCD using the recursive functions. recursively.					<i>D.Bhanu Moulika</i>	
7	20407	Program make a simple calculator					<i>D.Nandini</i>	
8	20408	1. Write a program that defines a function large in a module which will be used to find large of two values and called from a code in another module. 2. Write a program that demonstrate the use of method __init__					<i>[Signature]</i>	
9	20409	1. Write a program to demonstrate the use of inheritance. 2. Write a Program to demonstrate Polymorphism.					<i>D. Tejaswi</i>	
10	20410	1. Demonstrate Polymorphism using Function Overloading. 2. Write Program to demonstrate Method overriding with arguments.					<i>[Signature]</i>	
11	20411	1. Write program to depict multiple inheritance. 2. Write a python program to demonstrate multilevel inheritance.					<i>G.S.Ram</i>	
12	20412	1. Program to demonstrate multipath inheritance (or) hybrid inheritance.					<i>K.Deeptika</i>	

(iii) Question Banks:

Slow learners are assisted with question bank.

Question banks are an important resource for students and educators. Students can use question banks to identify areas where they need to focus their efforts. They can help students gauge their readiness for exams by exposing them to a wide range of topics. Question banks can help improve the teaching, learning, and evaluation processes by providing a pool of quality pre-made questions. A sample proof of Question bank:

P.B.Siddhartha College of Arts & Science
Question Bank, Academic Year 2019-2020
CA1T3: Computer Organization Program: MCA Faculty: Dr.T.S.Ravi Kir

1. Simplify the Boolean function F together with the don't care condition d in
 - (i) Sum of products form
 - (ii) Products of sums form
 - (iii) $F(A, B, C, D) = \sum (0,1,2,3,7,8,10)$
 - (iv) $d(A, B, C, D) = \sum (5,6,11,15)$
2. Explain the operation of JK flip flop with logic diagram
3. Explain different types of flip flops.
4. Define register and explain about shift registers.
5. Explain 1's & 2's complement with examples
6. Explain the operation of 3-to-8 line decoder with logic diagram and truth table.
7. Explain the error detection with odd parity bit with logic diagram
8. Explain bus transfer system for four registers with a block diagram
9. Explain fixed point & floating point with example
10. Explain instruction cycle with a flow chart
11. Explain arithmetic micro operations and draw a circuit to implement
12. Explain memory reference instructions.
13. Explain register reference instructions
14. Explain I/O reference instructions
15. Describe block diagram of ALU
16. Explain address sequencing in micro programmed control unit
17. Explain various addressing modes
18. Define interrupt and explain different types of interrupts
19. Explain priority interrupt with example
20. Explain about control memory
21. Explain various instruction formats
22. Explain the addition and subtraction with signed-magnitude data with a flow chart
23. Explain Booth's multiplication algorithm
24. Draw and explain BCD adder
25. Explain about floating point arithmetic operations
26. Explain asynchronous data transfer methods
27. Explain memory hierarchy

28. Explain various modes of data transfer
29. Explain associative memory in detail
30. Explain hardware algorithm with flow chart and explain decimal division.
31. Explain multiplication algorithm with example.
32. Explain associative memory
33. Perform $(-56) - (-13)$ in binary using 2's complement method.
34. Design a two bit binary down counter with JK flipflops and one input x. When $x=0$, the state of the flip-flops does not change and when $x=1$ the state sequence is 11, 10, 01, 00, 11 and so on?
35. Discuss the operation of master-slave flip-flop with logic diagram and timing relationship diagram?
36. What is an encoder? Construct a 5×32 line decoder with four 3×8 line decoders with enable and one 2×4 line decoder?
37. What is a shift register? Draw and explain bi-directional shift register with parallel load
38. Discuss the logic micro-operations in Register transfer language?
39. What is an interrupt? Explain the interrupt cycle with diagram and necessary micro-operations?
40. Explain the operation of common bus system with a diagram?
41. Draw and explain the block diagram of control unit of a basic computer?
42. What are the advantages of micro-programmed control unit over hardwired control unit?
43. Explain different addressing modes with an example?
44. Explain different instruction formats
45. Explain $X = (A + B) - (C + D)$ with different instruction formats?
46. Explain daisy chain priority interrupt?
47. Explain parallel priority interrupts?
48. What is locality of reference? Discuss different organizations of Cache Memory
49. Design a 4 bit synchronous counter using J-K flipflop?
50. Discuss the operation of SR flipflop with logic diagram? Or
51. Construct a 16 to 1 line MUX with two 8 to 1 line MUX and one 2 to 1 line MUX?
52. What is the difference between serial and parallel transfer? Explain bi-directional shift register?

P.B SIDDHARTHA COLLEGE OF ARTS AND SCIENCE :: VIJAYAWADA-10
DEPARTMENT OF COMPUTER SCIENCE
PROGRAM: M.C.A SEMESTER: IV ACADEMIC YEAR: 2020-2021
COURSE CODE: CS4T4i SUBJECT: Big Data Analytics

QUESTION BANK

Faculty: V. Venkata Ramana

HOD: Dr. T.S.Ravi Kiran

Signature of the Faculty with Date:

Signature of HOD with Date:

UNIT I

Each question - 14 Marks

1. Explain classification of digital data with examples in terms of Big data
2. What is Big data? Explain the characteristics & evolution of Big Data
3. a. Explain V's in Big data
b. What is changing in realms of big data?
4. a. Distinguish between BI vs BIG data
b. Who is Data Scientist? Illustrate the skills required for data scientist
5. Explain the challenges faced by BIG Data, How these challenges are handled?
6. Explain CAP Theorem with illustrations

UNIT II

1. Explain architecture of HDFS
2. Explain Anatomy of file Write in HDFS
3. Explain Anatomy of file read in HDFS
4. Illustrate Hadoop eco-system with neat diagram
5. Explain the following with neat diagram
6. a. In-memory analytics
b. In-database processing
c. Symmetric multiprocessing

UNIT III

1. How Map Reduce works with example?
2. a. What is NoSQL? Explain type of Nosql Data Bases with examples
b. What are advantages and disadvantages of NoSQL
3. a. How to create a collection in mongoDB?
b. Explain Mongo DB query language with examples
4. a. Explain CRUD operation into mongoDB with examples
b. Write short notes on exporting and importing of files into mongoDB with example
5. Explain Map-Reduce in mongoDB with suitable example
6. What is MongoDB? Explain MongoDB Query Language with examples

7. a. Distinguish between SQL and NoSQL

UNIT IV

1. Explain Hive architecture with neat diagram
2. Explain Creation and deletion of table in Hbase
3. a. Distinguish between Hbase and RDBMS
b. Write shortnotes on Anatomy of apache PIG
4. a. Explain Mapreduce with PIG with examples
b. What is role of User defined functions in PIG?
5. Execute the hive command for the following
 - a. Display the employee records who are working in dept 5
 - b. Add new column to the employee table
6. Explain Hbase architecture with neat diagram

UNIT V

1. Explain various visualization design methods with examples in Tableau
2. Explain creating the word cloud and text table/Crosstab with examples in Tableau
3. Explain the process of data blending with example in Tableau
4. a. Define dimension and measure with examples
b. Explain shelves tableau with neat diagrams
5. a. Explain role of Measure Values and Measure Names in tableau and how they are used?
b. How we connect data in tableau?
6. Explain the process of creating any four charts in Tableau with examples
7. Explain process of connecting various data sources to Tableau Worksheets with examples

(iv) Counselling:

Slow Learners are generally are the ones who are not regular to the college. Student at P.B.Siddhartha College are given counseling to address issues like low attendance lower grades in Continuous Assessments, and behavioral problems. Parents will be informed about the students performance and behaviour, the concerned mentor organizes a meeting to discuss with the respective students and parents to resolve the issues. This kind of action can help student in becoming more serious in his studies.

MSE (COMPUTER SCIENCE)					
SNO	DATE	NAME OF STUDENT	COMPLIENT	PARENT SIGNATURE	HOD SIGNATURE
1	22/02/19	18335 - MSc II SEM B. TRIVENI	Shortage of Attendance	9290888877 BROTHER (6807) . B. Pray	ARTS D. Srinivas
2	23/02/19 SATURDAY	18327 - MSc II SEM D. KEERTHANA (47)	Shortage Attendance	8466864656 D. NAVESHWARAN - FATHER	ARTS D. Srinivas
3	08/03/19 FRI	18342 - MSc II SEM U. AMALESH	Shortage of Attendance	9390012957 - FATHER U.S.V. BHADRACHALAM	ARTS D. Srinivas
4	13/03/19 WED	MSc II SEM LALITHA PHANI PRADIM	Zero percentage Attendance	981597155 R. KUMAR R. KUMAR - MOTHER	ARTS D. Srinivas
5	15/03/19	MSc II SEM MAYIC. MOUSIEU RAHIM	To know about my son future	9908788757 SHARIP	ARTS D. Srinivas

MCA					
SNO	DATE	NAME OF THE STUDENT	COMPLIENT	PARENT SIGNATURE	HOD SIGNATURE
1.	06/11/19	M. TANUJA, I Sem	Shortage of Attendance	M. H. CORA	ARTS D. Srinivas
2.	06/11/19	N. Poornima	not interested in studies	N. S. S. S. S. S.	ARTS D. Srinivas

(v) Mentor-Mentee System:

Through Mentor-Mentee System faculty members also supports slow learners. The mentor also identifies other *skills* and *strengths* and encourages them to hone them which helps build self-confidence resulting in improvement in *Academic Performance* also. Students are assigned a mentor who is one of their subject teachers. Each mentor is assigned the responsibility of 20-25 students. Mentor books are allotted to the mentors where mentor maintains the data of the mentees like attendance and marks. Mentor is always available for the students in case of any concerns. Especially mentor tracks the performance of their mentees and gives required counseling and assistance for slow learners. More details are discussed in criteria 2.3.2

Sample data evidence of mentoring books:

P B SIDDHARTHA COLLEGE OF ARTS & SCIENCE

VILAYAWADA - 15 PL.No. 2473002

MENTOR - MENTEE FORM

Student's Name: Arizalla Divya Sri
 Date of Birth: 06-07-1999
 Father's Name: A.Bala Brahmaji
 Mother's Name: A. Swajtha

CONTACT DETAILS

Local Address	Permanent Address
21-117, sai nagesh 1 st line yanamalakuduru Vilayawada - 520007 Krishna district	21-117, sai nagesh 1 st line yanamalakuduru Vilayawada - 520007 Krishna district

Land line

Student's Mobile Number: 9985456569

Mother's Mobile Number: 9985667961

Father's Mobile Number: 9910738109

Guardian's Mobile Number



Guardian's
Photo
(if parent is
not existing)

Roll Number

19901

Programme

MCA

e-mail - Parent

e-mail - Student

divyasairizakalla@gmail.com

COURSE CODE	ATTENDANCE UP TO			MARKS OBTAINED				FINAL MARKS IN LA TESTS	FINAL MARKS IN SEMESTER END EXAMS
	I M	II M	SEM END	I M	II M	ATL	ASL		
CA 171	28	16	50/50	21	22	4	5	21	37 58
CA 172	20	10	48/50	12	15	5	5	21	36 58
CA 173	24	0	46/50	30	28	5	5	25	51 76
CA 174	20	6	54/50	36	16	4	5	22	41 63
CA 175	21	6	52/50	14	30	5	5	21	29 50
CA 176	14	9						26	62 88
CA 177	45	3						22	60 88
CA 178	0	0							64
BACKLOGS								0	
SUGGESTIONS Increase the number of questions in the end exams. Signature of the Panel: _____ Signature of the Student: <i>A. Dinesh</i>									

COURSE CODE	ATTENDANCE UP TO			MARKS OBTAINED				FINAL MARKS IN LA TESTS	FINAL MARKS IN SEMESTER END EXAMS
	I M	II M	SEM END	I M	II M	ATL	ASL		
CA 271			56	30	20	5	5	25	37 58
CA 272			58	29	29	5	5	25	38 63
CA 273			55	26	31	5	5	22	30 53
CA 274			55	30	30	5	5	20	38 65
CA 275			51	30	20	5	5	25	29 54
CA 276								28	66 94
CA 277								27	68 95
CA 278									96
BACKLOGS								0	
SUGGESTIONS None. Signature of the Panel: _____ Signature of the Student: <i>A. Dinesh</i>									

COURSE CODE	ATTENDANCE UP TO			MARKS OBTAINED				FINAL MARKS IN LA TESTS	FINAL MARKS IN SEMESTER END EXAMS
	1 st IA	2 nd IA	SEM END	1 st IA	2 nd IA	ATT	ASL		
CA2T1	22	13	35	53	33	4	5	26	52
CA2T2	17	28	45	36	25	4	5	17	38
CA2T3	14	12	28	31	34	2	5	24	26
CA2T4	14	15	24	33	35	3	5	25	35
CA3T5	23	25	47	24	25	4	5	24	47
CA3T6	27	23						29	68
CA3T7	29	26						26	67
CA3S1	0	6							42
BACKLOGS	0			0					
SUGGESTIONS									
SEM-I _____ SEM-II _____									
Signature of the Parent _____ Signature of the Student <i>A. P. Singh</i>									

COURSE CODE	ATTENDANCE UP TO			MARKS OBTAINED				FINAL MARKS IN LA TESTS	FINAL MARKS IN SEMESTER END EXAMS
	1 st IA	2 nd IA	SEM END	1 st IA	2 nd IA	ATT	ASL		
CA4T1				26	25		5	22	42
CA4T2				20	23		5	23	41
CA4T3				26	25		5	25	45
CA4T4				27	24		5	28	46
CA4T5				24	24		5	22	41
CA4L1								22	67
CA4L3								20	66
CA4P1								20	52
BACKLOGS	0			0					
SUGGESTIONS									
SEM-I _____ SEM-II _____									
Signature of the Parent _____ Signature of the Student <i>A. A. Singh</i>									

PART III	COMPLETED/NOT	AREA:	
PART IV	COMPLETED/NOT	AREA:	

B. Advanced Learners:

To strike a perfect balance between academics and extra & co-curricular activities students are given the opportunity to participate in Student Meets, Writing Research Articles, Conferences, *Hackathons*, *Paper Presentations*, and *Project Competitions*. We also encourage advanced learners to conduct *Workshops* and *Seminars* to share their knowledge.

- (i) **Research Articles:** Research allows people to learn about new ideas, points of view, theories, and facts, which can help them develop critical thinking, analytical, and communication

skills. The advanced learners are encouraged to write Research articles along with faculty members on the latest technologies. The faculty also facilitates students to publish their articles in *Renowned Peer Reviewed Journals*. A sample research articles given below:

RESEARCH PAPERS

SECURITY CHALLENGES AND MEASURES OF IoT DEVICES AND ITS NETWORKS

By

SRINIVASA RAVI KIRAN T. * SHANTHI PRIYA DASARI ** SALMA BEGUM ***

*.,*** Department of Computer Science, P. B. SitaHartha College of Arts & Science, Vijayawada, Andhra Pradesh, India.

Date Received: 11/01/2023 Date Revised: 04/04/2023 Date Accepted: 17/04/2023

ABSTRACT

The Internet of Things (IoT) illustrates physical objects with sensors, processing capabilities, software, and other technologies that attach and swap data with other devices and systems over the Internet or other communication networks. The use of IoT devices is widespread across all domains. In this article, various types of attacks on IoT devices by intruders or hackers to gain access to IoT devices were discussed. In addition, various measures have been formulated to minimize attacks on IoT Devices. In-depth analysis of the likelihood of security threats and various possibilities to minimize security threat hacking were analyzed in detail, and possible measures are stated to overcome security threats.

Keywords: Security, Threat, Protocol, Attacks, Fuzzy Logic, Network.

INTRODUCTION

The movement of IoT is significant in the present era and is part of the Internet. The IoT has a global network infrastructure with an identify for every object that is physically connected to the Internet and can communicate with other devices on the Internet. There are a few devices such as computers, cell phones, tabs, and washing machines. The IoT is a vast network of interconnected 'things.' The device contains a microchip that connects all devices. These microchips track the environment and report this information to both networks and humans (Husamuddin & Qayyum, 2017).

There are a few devices, such as computers, cell phones, tabs, and washing machines. IoT is a large network of interconnected devices, and its devices contain microchips that interconnect all devices. These microchips track the surroundings and report the same in the network, as well as in humans. The best part of IoT is

that each and every physical entity can be communicated and accessible through the Internet (Husamuddin & Qayyum, 2017). As a result of the low-cost Internet, a large number of devices are connected to the Internet. According to a research company, there were 4.48 billion devices connected to the Internet, and the growth in 2016 was expected to be 30%. By 2020, it is expected to reach 50 billion. These devices provide a surface for attackers (Husamuddin & Qayyum, 2017).

1. Features of IoT

Vignesh and Samyudurai (2017) illustrated some important IoT features from four aspects: description, threat, challenges, opportunities, and solutions, as depicted in Figure 1.

- *Description:* This describes the vulnerabilities in IoT security across networks or in the cloud and describes the distinct security measures to safeguard the resources (Zhou et al., 2018).
- *Threat:* It discusses the latent threats and vulnerabilities of IoT devices as well as the major consequences of these threats (Siddiqui et al., 2020).
- *Challenges:* It outlines the possible difficulties in accessing IoT devices and addresses the threats to

This paper has objectives related to SDGs

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

16
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Enhanced Security in IOT

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ABSTRACT

Internet of things (IoT) is an enormous dissipated system in which billion of gadgets are interconnected. It is viewed as the best immersion of destinations as it doesn't envision that human should machine correspondence. Notwithstanding, with the lively improvement of IoT, challenges concerning security have advanced also. Since IoT includes three layers affirmation layer, create layer and application layer, this paper will give an examination to different security issues at each layer including the cross-layer heterogeneous mix security issues and propose some encouraging courses of action.

Keywords

Internet of Things, Wireless Technology, Security issues, Intelligent System

INTRODUCTION

The term Internet of Things (IOT), for the most part called Internet of Objects suggests the planned interconnection of normal things, which is commonly seen as a self-organizing remote course of action of sensors whose reason is interconnect all things [1].

Today the world is totally subject to the data gave on web, which is gotten by taking pictures or through substance. This undeniably shows the basic duty of an individual for hoarding of the data. In any

case, the issue with human joining is that, individuals have kept time and less exactness, which prompts shameful and conflicting information. In this manner, such a framework is required which can regularly get the information and exchange it to the web with no human to machine correspondence.

Web of things is a condition in which everything is connected with the web through the data distinguishing gadgets with the genuine goal of attentive ID and the managers [2]. These things are equipped with the novel identifiers which can be examined utilizing RFID names with the assistance of sensors (data recognizing contraptions). The thing in the snare of thing can be an individual with a heart screen introduce, a property creature with a biochip transponder, a vehicle that has worked in sensors to alarm the driver when the weight is low or some other designed article that has a fascinating IP address with the capacity to be connected with the structure for the exchanging of the information [3]. There is a basic endeavor of remote headway, Micro-electromechanical Systems (MEMS) and the web really happening as intended of IOT. One of the foremost things expected to recognize the article in the earth is RFID. Recognizing can be conceivable by assigning each article an amazing identifier and sometime later associated with the web, for shrewd dealing with by

(i) Conferences:

Students are also encouraged present the research articles in the national and International conferences. A sample of presentations is provided below.

Dr. T.S.Ravi Kiran, HoD, Department of Computer Science, S.Nagasai Nishmitha from II MCA,G.Priyanka from II MCA presented a research article "Security Threats and Measures to overcome from Security Threats in Superior Cloud" in Two Day National Seminar on "Recent Trends in Information Communication Technologies 2023" at Krishna University, Machilipatnam on 03rd and 04th January 2023.

**(ii) Competitions:**

Ch.Hemalatha (21MCA64) of M.C.A Third Semester has secured Third Prize in INSIGNIA (Logo Design) in a State Level Technical event Tech Sparks-2K22, Sri Durga Malleswara Siddhartha Mahila Kalasala, Vijayawada, on 1st December 2022 organized by Department of Computer Science.



Tadiparti Venkata Ramana Sai Phanindra from M.C.A with Register Number 20259 has secured Second Prize in the event "Be the 1 in 3" a personality development contest in **ARVUTI-2K22**, a State Level Techno Cultural Meet organized by AG & SG Siddhartha Degree College of Arts & Science, Vuyyuru on 12th April 2022.



- Reddy Anupama of M.Sc.(Computer Science) with Register Number 20326 has secured First Prize in the event "Tech Tambola" a coding contest in **Techno Banquest-2021**, a State Level Techno Cultural Meet organized by K.B.N College, Vijayawada on 15th December 2021 organized by





(iii) Certificate Courses: New subjects not included in the curriculum are covered through certificate courses offered by trusted educational platforms.



(iv) Projects & Internships: Projects and Internships in academics promote hands-on learning, allowing students to apply theoretical knowledge to real-world problems. Advanced learners

are encouraged to undertake virtual internships to improve their knowledge domain. A sample certificate given below:



(v) Awards and Scholarships:

Pratibha Awards and Gold Medals are awarded to the toppers in the various departments of the institution. Also scholarships are given to motivate and encourage the students.

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PRATHIBA AWARDS 2018 - 2019	
The following students from the department of Computer Science received Prathiba Awards from Krishna University for the academic year 2015-2016.	
Venue: November 2018-Ongle	
1. Y15MCA155026-Nelakuditi Vijaya, M.C.A, 2015-2018 Mobile: 9948932638 E-Mail: vijaychowdary1234@gmail.com	
2. Y15MCA155014-Gudise Lavanya, M.C.A, 2014-2017 Mobile: 9603480647 E-Mail: gudiselavanya14@gmail.com	



This Award is Presented to..... **GUDISE LAVANYA**
.....
KRISHNA..... University for excellence
in **COMPUTER SCIENCES** Degree Examination 2018.

(Nara Chandrababu Naidu)
Hon'ble Chief Minister
Andhra Pradesh

(Ganta Srinivasa Rao)
Hon'ble Minister for Human Resource Development
Andhra Pradesh





This Award is Presented to..... **NELAKUDITI VIJAYA**
.....
KRISHNA..... University for excellence
in **COMPUTER SCIENCES** Degree Examination 2018.

(Nara Chandrababu Naidu)
Hon'ble Chief Minister
Andhra Pradesh

(Ganta Srinivasa Rao)
Hon'ble Minister for Human Resource Development
Andhra Pradesh



(vi) Student Innovations:

Embracing innovation in education promotes critical thinking and a sense of adventure for the students in the classroom. As educators, we leverage innovation to improve student outcomes as to develop those skills that students need to succeed in life. In P.B.Siddhartha College of Arts and Science, advanced learners are supported by the faculty and management to come up with innovations and are facilitated in all means. Sample evidence of innovations of our students:

- Mr. A.Mani Kanta with register number 20201 of Second Year M.C.A has Developed a prototype on **“QR Code Based Attendance System”** using **OpenCV and Python** on 11th February 2022 and using this Project Student Attendance can be Recorded and Monitored by scanning the QR Code available on their ID Cards.



- Mr. V.Surya Kumar with register number 20336 of Second Year M.Sc.(Computer Science) has Developed a Proto Type **“Contactless Door Bell”** on 02/03/2022 where he has made use of *Aurduino UNO* and *IS Sensor* for Detecting and Buzzer when a person wants to ring the Bell. The user is required to just place their hand in front of the IR Sensor and Bell rings Automatically thus this avoids contact to switch.



- (vii) **Higher Education:** There is a great significance of higher education. It equips learners with advanced knowledge, critical thinking, and analytical skills that enable them to pursue fulfilling career. Moreover, it fosters a culture of continuous learning, promotes adaptability in an ever-evolving world. People who have higher education, they can contribute significantly for the development of the nation. In our college we encourage Advanced Learners to do higher education to shape their bright future. A sample of admission letter is given below.



4/24/2023

Student ID: *20542339

Dear VIJAYA NAGA VENKATA SRI SUDHA RAMYA VALIVETI,

Congratulations! You have been admitted to the University of Central Oklahoma's Jackson College of Graduate Studies to begin the Data Science, M.S. program for the Fall 2023 semester.

As you make plans for being a graduate student Broncho, please know that you are joining a rich and vibrant graduate community. For more than 60 years, the Graduate College has provided quality graduate education to emerging and seasoned professionals just like you. Our graduate students enjoy faculty mentorship and opportunities for growth – all while advancing in their professions.

With this admittance, we wish you the very best as you begin the next chapter of your educational aims. We are pleased you have chosen the University of Central Oklahoma and look forward to all you will accomplish in your graduate endeavors.

Broncho Best,
Dr. William Radke
Interim Dean
Jackson College of Graduate Studies

Jackson College of Graduate Studies

Nigh University Center • 100 North University Drive • Edmond, Oklahoma 73034
Phone (405)974-3341 • Fax (405)974-3852 • Email: gradcoll@uco.edu

Ref Code: 51-111

- (viii) **Seminars:** Advanced Learners are also encouraged to take subject topics and give seminars to build their Proficiency in Verbal Communication and presentation skills.

Department of Computer Science :: P.B.Siddhartha College of Arts & Science							
List of Seminar Presentation Topics							
Program	Academic Year	Se me ster	Course	Course Code	Name of the Faculty	Signature of Faculty	Signature of HoD
MCA	2022-2023	II	Data structures	22CA2T2	K. Gayathri		
S.No.	Roll. No	Seminar Presentation Topic					Signature of Student
1	22MCA01	Queues and its Operations					
2	22MCA02	Stack and its Operations					
3	22MCA03	Deque and its Operations					
4	22MCA04	Intoduction to Data Structures and Its Operations					
5	22MCA05	AVL Trees in Data Structures					
6	22MCA06	Stacks using Linked List					
7	22MCA07	Linear search and Binary Search					
8	22MCA09	Representation of Linear Array					
9	22MCA10	Heap Sort					
10	22MCA11	Introduction to Linear Data Structures					
11	22MCA12	Recursive Implementation of traversing Binary Tree					
12	22MCA13	Priority Queues					
13	22MCA14	Data Structures					
14	22MCA15	Towers Of Hanoi					
15	22MCA16	Stacks using array representation					
16	22MCA17	Complexity and its Types					
17	22MCA18	Parallel Arrays					
18	22MCA19	Sequential Representation of Graphs					