

2023 ANNUAL REPORT REPORTING TEMPLATE

1. Name of the School/Faculty/Department/Unit: **Faculty of Computing and Information Technology (FCIT)**

2. Brief Historical Background of the School/Faculty/Department/Unit, including vision, mission and philosophy:

1.1 Introduction and Historical Development

The Faculty of computing and Information Technology (FCIT) took-off in 2021/2022 academic session with four (4) Departments and four (4) Undergraduate programmes during the first year of its establishment. Currently the faculty offers Bachelor degree programmes in Computer Science, Cyber Security, Information Technology and Software Engineering, with an enrolment of 613 students across all the levels (556 male and 57 female). In 2023, approval have been obtained from the NUC to commence PGD in Computer Science, M.Sc. Computer Science and PhD in Computer Science with various specialisations such as IT, Software Engineering among others. In the sixth year i.e. 2028, the faculty aimed to commence academic programmes in Artificial Intelligence, Information Systems, Telecoms and Informatics & Data Science.

The establishment of the faculty was a response to the Jigawa State Government's drive for incorporating ICT as a component of state' education policy. The State envisaged to use ICT in promoting its sustainable economic development by facilitating economic growth, effective delivery of human development services such as health, education, security, and advancement in the quality and improvement of governance. The Faculty focused on research and provide training aimed at producing graduates in the field of Computing who will be well equipped with knowledge and skills that will form the basis of an entrepreneurial mind-sets and innovative solutions.

1.2 Philosophy and Objectives of the Faculty

1.2.1 Philosophy

The Philosophy of the Faculty is to provide training that will develop the mind, impact both theoretical and practical knowledge of the students, and develop their self-confidence, in order to help them to be innovative and self-reliant in the fields of Computing and Information Technology.

1.2.2 Objectives

The objectives of the faculty are:

- a) Create in students the awareness of and enthusiasm for Computing and Information Technology and their capabilities.
- b) Involve the students in an intellectually stimulating and satisfying experience of learning and studying
- c) Provide a broad and balanced foundation in Computing and Information Technology knowledge and practical skills.
- d) Develop in students through an education in Computing and a range of transferable applicable skills of information technology to all aspects of human endeavours.
- e) Generate in students an appreciation of the importance of computer in an industrial, economic, technological and social context.
- f) Provide students with knowledge and skills base for further studies in computing and Information Technology or multi-disciplinary studies involving computer science.

1.2.3. Vision

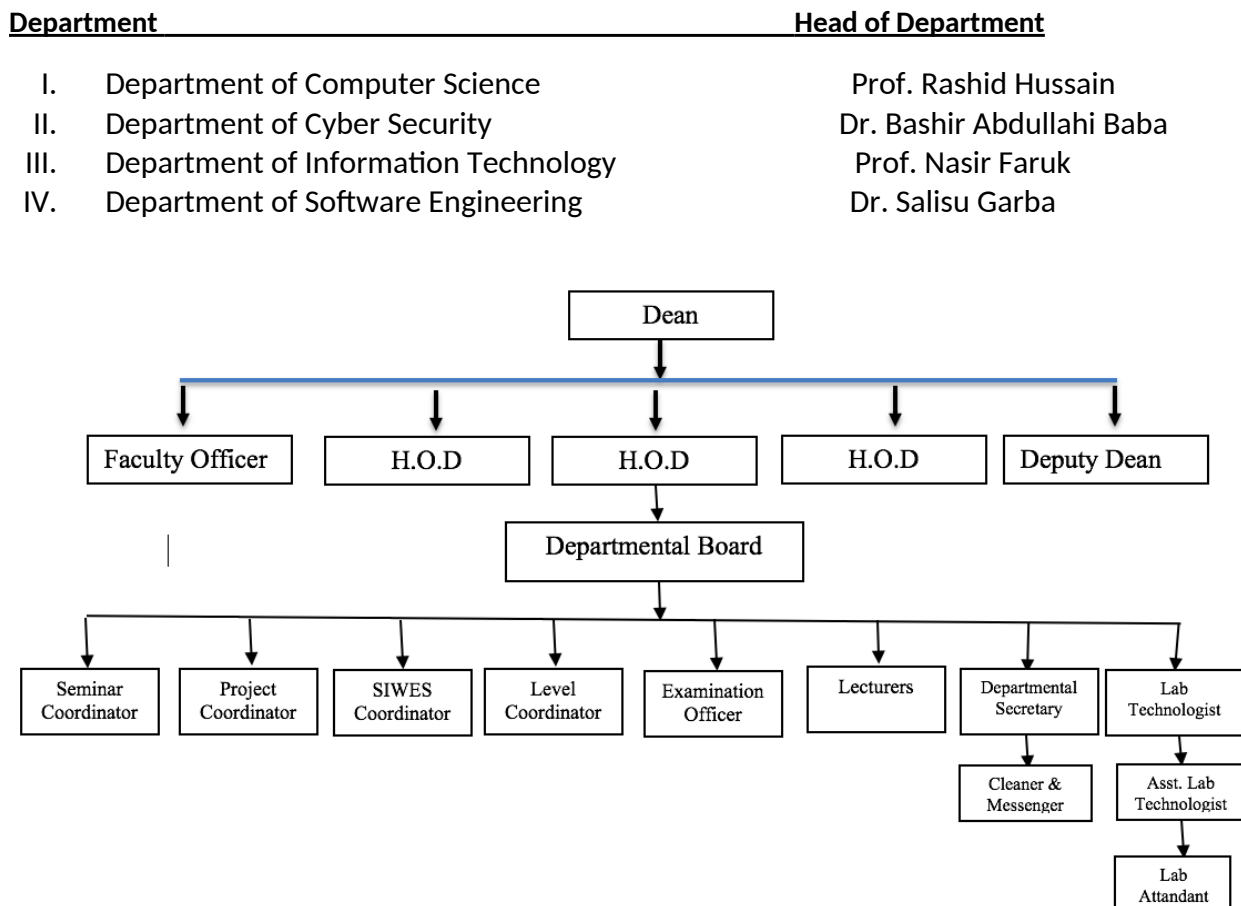
To be a World class Faculty that provides dynamic teaching, learning and research environment that will proffer solutions, using latest technology, to socio-economic problems through innovative solutions.

1.2.4 Mission

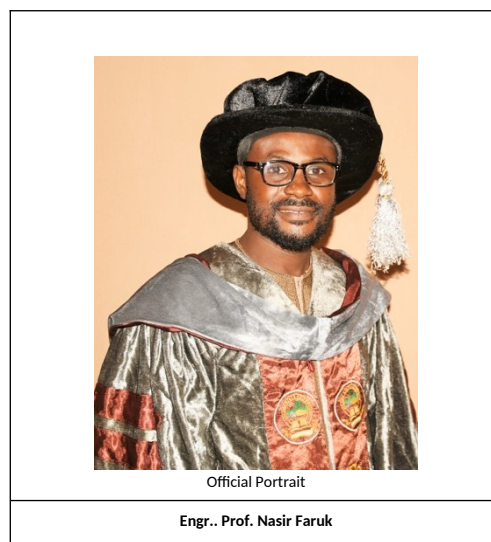
To produce graduates, sound in objective and critical judgment, in analyzing and synthesizing societal problems with a view to enhancing development through technologies.

1.3 Administration of the Faculty

The Faculty is headed by **Engr. Prof. Nasir Faruk** as the Dean, a Professor of Telecommunications and Information Technology, the Deputy Dean, Dr. Salisu Garba.



3. Picture (official portrait in academic gown if applicable) and Name of the Dean/Director/HOD:



4. Major activities undertaken in 2023:

- a) Teaching, research and administration
- b) Software Exhibition and IEEE ComSoc Membership Development Program
- c) Technical Presentation on Mastering Research Gap Identification and Problem Statement Formulation in Computing Projects
- d) Establishment of Laboratories
- e) Deployment of Dedicated Internet Service Infrastructure and Services
- f) Accreditation of Computer Science Department
- g) Student Orientation Program
- h) Outsourcing of external Grants
- i) Industrial Linkages and Collaboration

5. Staffing

5.1 Staffing [Department of Computer Science]

S/No.	Staff No.	Name	Rank/Designation	Nature of Appointment
1.	359	Prof. Rashid Husain	Professor	FULL TIME
2	651	Abdulrashid Sabo	Lecturer II	FULL TIME
3.	381	Isa M. Ismail	Lecturer II	FULL TIME
4.	450	Usman Rabi'u Isah	Lecturer II	FULL TIME
5.	267	Ahmad Abdulkadir Madaki	Assistant Lecturer	FULL TIME
6.	407	Baffa Sani Mahmoud	Graduate Assistant	FULL TIME

5.2 Staffing [Department of Information Technology]

S/No.	Staff No.	Name	Rank/Designation	Nature of Appointment
1.	537	Prof. Nasir Faruk	Professor	FULL TIME
2.	061	Dr. Babangida Isyaku	Lecturer II	FULL TIME
3	241	Marzuk Abdullahi	Lecturer II	FULL TIME
4.	193	Mohammad Jinjiri Wada	Assistant Lecturer	FULL TIME
5.	567	Ismail Ibrahim	Assistant Lecturer	FULL TIME
6.	545	Umar Aliyu Umar	Graduate Assistant	FULL TIME
7	512	Shafi'u Sani	Graduate Assistant	FULL TIME

5.3 Staffing [Department of Software Engineering]

S/No.	Staff No.	Name	Rank/Designation	Nature of Appointment
1.	055	Dr. Salisu Garba	Senior Lecturer	FULL TIME
2	062	Nuruddeen Tijjani Wurno	Lecturer II	FULL TIME

3.	756	Umar Abdullahi Umar	M.Sc. in Computer Science	FULL TIME
4.	654	Aminu Malam Ya'u	Graduate Assistant	FULL TIME

5.4 Staffing [Department of Cyber security]

S/No.	Staff No.	Name	Rank/Designation	Nature of Appointment
1.	266	Dr. Bashir Abdullahi Baba	LECTURER I	FULL TIME
3	816	Sa'du Zakariya Gujungu	Graduate Assistant	FULL TIME
4.	655	Kabiru Musa	Graduate Assistant	FULL TIME
5.	654	Aminu Malam Ya'u	Graduate Assistant	FULL TIME

6. Staff Training (University-sponsored)

a) Staff on Fellowship

S/No.	Staff No.	Name	Programme of Study	Institution
1.				
2.				

Note: Any staff who wishes his graduation pictures to appear in the Annual Report should attached it to the submission.

b) Conference Attendance

S/No.	Staff No.	Name	Title of the Conference/Workshop/Seminar	Date	Conference Organiser and Venue
1.	SP537	Engr. Prof Nasir Faruk	The 2nd International Conference on Multidisciplinary Engineering and Applied Sciences (ICMEAS-2023)	1st- 3rd November 2023	Institute of Electrical and Electronics Engineers (IEEE), Nigeria section in Collaboration with Nile University Abuja. Venue: Nile University ABJ
2.	SP537	Engr. Prof Nasir Faruk	Advancing Technology in Africa Towards Presence on the Global Stage	20th - 22nd September 2023	IEEE AFRICON 2023 is co-sponsored by IEEE Region 8 and the IEEE Kenya Section. Venue Kenya School of Monetary Studies (KSMS), Nairobi, Kenya.
3.	SP537	Engr. Prof Nasir Faruk	ICT in Education and Quality Control For Capacity Building of Tertiary Institutions	21st-22nd March 2023	Association for Education and Communication Technology (AECT), Digital Bridge Institute Abuja

4.	SP537	Engr. Prof Nasir Faruk	ICT and Financial Crimes Control For An Effective Economic, Social Security Growth of the Nation	5th-6th Oct 2023	Federal Republic of Nigeria House of Representatives Committee on Financial Crimes in Collaboration with Bricks Mount Concept Services. Venue Women Center, Abuja
5.	545	Umar Abdullahi Umar	5th international conference 2023 on Scientific and Technological Approach: A solution to Nigeria Multidimensional Challenge	18-19th October 2023	Yusuf Maitama Sule University Kano Nigeria.
6.	061	Dr. Babangida Isyaku	8th IEEE International Conference on Automatic Control & Intelligent Systems (I2CACIS2023)	17 June 2023	Shah Alam, Malaysia, Penang, Malaysia
7.	061	Dr. Babangida Isyaku	4th International Conference on Applied Computing (ICAC2023)	20-21 Aug 2023	Johor, Malaysia
8.	061	Dr. Babangida Isyaku	International Conference of Reliable Information and Communication Technology (IRICT)	2023	Pulai Spring Resort, Johor Bahru, Malaysia

Note: Any staff who wishes his pictures during the conference to appear in the Annual Report should attached it to the submission.

7. Staff Training (TETFund-sponsored)

a) Staff on Fellowship

S/No.	Staff No.	Name	Programme of Study	Institution
1.	241	Marzuk Abdullahi	Ph.D. in Computer Science	University Sains Malaysia
2.	381	Isa M. Ismail	Ph.D. in Computer Science	Cranfield University, UK
3.	450	Usman Rabiu Isah	Ph.D. in Computer Science	INSA Centre Val de Loire France
4.	407	Baffa Sani Mahmoud	M.Sc. in Computer Science	Federal University Dutsee
5.	816	Sa'du Zakariya Gujungu	M.Sc. in Computer Science	Nigerian Defense Academy Kaduna
6.	655	Kabiru Musa	M.Sc. in Computer Science	Nigerian Defense Academy Kaduna
7.	654	Aminu Malam Ya'u	M.Sc. in Computer Science	Federal University Dutsee
8.	756	Umar Abdullahi Umar	M.Sc. in Computer Science	Federal University Dutsee
9.	545	Umar Aliyu Umar	M.Sc. in Computer	Yusuf Maitama Sule

			Science	University
10.	512	Shafi'u Sani	M.Sc. in Information Technology	Chandigarh University India

Note: Any staff who wishes his graduation pictures to appear in the Annual Report should attached it to the submission.

8. Research

a) Research Sponsorship

S/No.	Name(s) of Researcher(s)/Research Group	Title of the Research	Status (Ongoing/ Completed)	Amount	Sponsor
1.	Engr. Prof Nasir Faruk	ICT-Hub and Internet For All Provision to Students and Host Communities in Sule Lamido University IEEE ComSoc ICT-Hub (23-COMHTB-03)	Completed	USD \$11,835.75.	IEEE Communication Society and Humanitarian Technologies Board Grant, USA
2.	Engr. Prof Nasir Faruk	Membership Development Program	Completed	USD \$1,500	IEEE Communication Society, USA
3.	Engr. Prof Nasir Faruk	Development of AI-Enabled Translator for Major Nigeria Languages	On going	₦ 22,345,22.19	TETFUND, NRF
4.	Engr. Prof Nasir Faruk	Modelling and Simulation of Rain and Specific Attenuation of FR1 and FR2 bands for 5G and Beyond Wireless Communications	On going	₦ 1,800,000	TETFund, IBR
5.	Engr. Prof Nasir Faruk	Virtual Clinic Models, Health Information and Clinical Data Repository for Sustainable Health care Delivery System in Nigeria	On going	₦ 15,000,000	TETFund, NRF
6.	Engr. Prof Nasir Faruk	Implementation of Virtual and Blended Learning Environments:	Completed	₦650,000.00	University Based Research, SLU

				Journal of Mobile Communications, Inderscience Enterprises Ltd. IF=1.2 Book Chapters 6. IET Book 'Cybersecurity in Emerging Healthcare System 7. IET Book on Security and Privacy Schemes for Dense 6G Wireless Communication Networks 8. Book on "Federated Learning for Digital Healthcare Systems"	1.2 Institute of Engineering and Technology (IET) Institute of Engineering and Technology (IET) Elsevier	
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9. Students' Enrolment Reporting Template

a) Undergraduate Programmes

Programme	Students by Gender			Students by State of Origin		
	Male	Female	Total	Jigawa	Others	Total
BSc. Computer Science	459	43	502	451	51	502
B.Sc. Cyber Security	33	05	38	35	03	38
B.Sc. Information Technology	33	04	37	36	01	37
B.Sc. Software Engineering	31	05	36	35	01	36
Total	556	57	613	557	56	613

Programme	Level	Students by Gender		
		Males	Females	Total
B.Sc. Computer Science	100	135	10	145
	200	100	07	107
	300	95	13	108
	400	71	09	80
	Spill over I	31	02	33
	Spill over II	11	00	11
B.SC. Cyber Security	100	32	05	36
B.SC. Information Tech.	100	33	04	37
B.SC. Software Engineering	100	31	05	36
TOTAL	All levels	558	55	613

Please note, the figures here represent total enrolment per department at the end of 2022/2023 academic session (i.e. 2023). Enrolment for 2023/2024 (i.e 2024) is not added as the reports considers only 2023.

b) Graduation Summary

Programme (e.g.)	First Class	Second Class (Upper)	Second Class (Lower)	Third Class	Total
BSc. Computer Science	10	20	28	16	74
B.Sc. Cyber Security	N/A	N/A	N/A	N/A	N/A
B.Sc. Information Technology	N/A	N/A	N/A	N/A	N/A
B.Sc. Software Engineering	N/A	N/A	N/A	N/A	N/A
Total	10	20	28	16	74

Please note that B.Sc. Cyber Security, B.Sc. Information Technology and B.Sc. Software Engineering are new programmes, the students are currently in 200 level.

10. Achievements and challenges

Achievements

a) Accreditation of Computer Science Department

The department of computer science attained FULL accreditation status during the 2023 wide NUC accreditation exercise.

b) Commencement of Postgraduate Programmes

The department of computer science, has got the approval from the NUC, after successful resource visitation to commence PGD in Computer Science, M.Sc. Computer Science and PhD in Computer Science with various specialisations such as IT, Software Engineering among others.

c) AD Scientific and Scopus Rating

One of the researcher in the Faculty, Prof. Nasir Faruk, the dean was ranked among top 2% global researchers.

d) Establishment of Laboratories

In the year 2023, Ten (10) fully furnished Laboratories were established in the Faculty. These are:

1. Software Engineering Lab
2. Data Communication and Network Lab
3. Cyber Security and Forensic Lab
4. Computer Graphics & Multimedia Lab
5. AI and Data Science Lab
6. Embedded System and IoT Laboratory (Hardware Lab)
7. AI & Radio Science Observatory
8. PG Research Lab
9. Computer Programming LAB and
10. General Resource LAB

e) Teaching, research and administration

The faculty has conducive environment for learning. The class rooms are fully ventilated with multimedia teaching aids. More than Seventy Five Million Naira (75,000,000) was attracted through research. The faculty establishes the very first national open data repository for radio science (SLUK Terrestrial Radio Propagation Repository). The repository is the first of its kind in the whole of west Africa. The url of the repository is www.slurepo.com.ng. Twenty Two (22) high impact research journals and conference proceedings were published from the faculty research group. Three major projects have been embarked aimed at addressing local challenges as highlighted as follows:

I. A grant was obtained through IEEE Communication Society and Humanitarian Technologies Board Grant, USA to facilitate the establishment of ICT-Hub for Internet Provision to Students and Host Communities in Sule Lamido University, Nigeria. The project deployed an ICT- Hub domiciled in the Faculty, where students could have unrestricted access to the internet services. Also, 100 students of the faculty were trained on Digital Marketing strategies so as to achieve business goals by interlinking with digital platforms that would change their entrepreneurial mindset which could positively impact on the net growth rate of our industries.

II. A grant was obtained through TETFund NRF to develop a Smart Green Virtual Clinic Model, Cloud-Based Health Information System and National Clinical Data Repository for Sustainable Healthcare Delivery in Nigeria (CHISCDR). The study proposes a robust, elastic, privacy-proof cloud-based Clinical Data Repository (CDR) that will enhance clinical research productivity nationwide, where modules for secured Federated Machine Learning Model (FMLM), using distributed training datasets to be hosted on cloud platform for nationwide CDR will be developed. The CDR is proposed to collect information relating to individual patients from a variety of sources such as data evolving from different health centers across Nigeria. The CDR will consolidate data from various clinical sources with varieties of data including demographics, radiology images, lab results, transfers, admissions, diagnoses and treatment. The project is currently at pilot stage in 3 health centers across Kafin Hausa, Jigawa State.

III. Automated system of fish farming has become inevitable due to the immense importance of fisheries aquaculture. The efficiency of any fish rearing system depends on monitoring and control of pond water quality parameters a reliable power source. The funded project presents a fish pond monitoring and control system that improves on the efficiency of fish rearing. A sensor network consisting of temperature, pH, turbidity and water level sensors was used to measure water quality parameters and then relay the readings to the pond manager through a Wireless Module, Firebase Server and an Android Application. Microcontrollers (Arduino Uno and Arduino mega) programmed using C++ language were used to effect the monitoring and control of the system. Each sensor was interfaced with the microcontrollers through analog to digital converters (ADC). A prototype fish pond was constructed to demonstrate the workability of this system and several tests were carried out on this prototype to verify the efficiency of the designed system.

f) Student Orientation Program, Software Exhibition and IEEE ComSoc Membership Development Program

g) Technical Presentation on Mastering Research Gap Identification and Problem Statement Formulation in Computing Projects

Dr. Fuad A. Ghaleb (Ph.D. (Computer Science), Information & Cyber Security, from School of Computing, Faculty of Engineering, Universiti Teknologi Malaysia (UTM), Johor, Malaysia.) delivered a technical paper on Mastering Research Gap Identification and Problem Statement Formulation in Computing Projects. The objective of the talk was to empower attendees with the skills and insights needed to embark on a research journey that not only contributes to the field of computing but also sets one on the path to becoming a distinguished researcher.

h) Deployment of Dedicated Internet Service Infrastructure and Services

i) Outsourcing of external Grants

In 2023, more than Three Hundred Million Naira (N300,000,000) external grants was secured through NITDA and IEEE. The fund was used in the establishments of laboratories, deployment of dedicated solar alternative power supply and Internet infrastructure. Part of the fund was also used to fund the faculty orientation program, student programs and other programs hosted by the faculty.

j) Industrial Linkages and Collaboration

In 2023, the following linkages were achieved between the faculty and some multinational corporations.

- i. Huawei Technologies, Nigeria
- ii. Cisco Cooperation
- iii. IEEE Communication Society, Nigeria
- iv. WaveTek Nigeria Ltd www.shaybisngltd.com
- v. Shaybis Nigeria Ltd www.wavetek.net
- vi. Joint Research MoU with Zhejiang University China
- vii. Joint Research MoU with INTI International University, Malaysia
- viii. EDx SignalPro USA
- ix. Ahmadu Bello University Zaria

k) Challenges

a) Insufficient Academic and Non-Teaching Staff

As rightly documented, the faculty has only 20 academic staff cutting across 4 academic departments. These staff are grossly inadequate to cater for the teaching and research need of the faculty. Each department is expected to have at least 8 academic staff during the first year of commencement of academic session. Therefore, there is a need to aggressively recruit academic staff in various departments for the faculty. The faculty has already included this request in the 2024 personnel budget. However, the recruitment

should focus on senior academics, worst case, mid-term academics with a Ph.D, who would go straight to the class room, teach and supervise projects.

b) Lack of Technologist

Currently, there are 10 well-established laboratories in the faculty and also, computing by the discipline, each course within the faculty has practical component, unfortunately, there is no single technologist in the faculty and hence, making it difficult to conduct laboratory practical to students as course lecturers would have to undertake both the theory and practical components of the course which increase the overall workload, coupled with insufficient man power. The department of Computer Science has been established since 2014, till date with no single technologist.

c) Insufficient Budget for Consumables

As you may be aware that Computing required both hardware and software. Now the faculty has made a breakthrough in securing adequate hardware facilities. Software are consumables which normally need to be renewed every year. Most of these software are very expensive. The budget allocation for the software component is insignificant and need urgent and upward review. Furthermore, there are other hardware consumables such as RJ45, Cat 7 cables e.t.c which are normally utilized during networking practical classes.

d) Insufficient Water Supply

Water supply to the faculty has been erratic. This lead most of the toilet facilities inside the faculty building to remain shut. The population of the faculty is increasing, hence, the issue of water supply should be aggressively dealt with.

11. Obituary (staff/student's name, staff/registration number, level, date, cause & picture), if any:

Portrait
Name of the late staff/student
Staff/Reg. Number
Level _
Cause

12. Any other issue worth recording, including pictures of events:



NUC Resource Visit for PG Programmes in the Department of Computer Science



TETFund NRF Screening and Monitoring Visit for the 5G TETFund NRF grant



Commissioning of Embedded System and IoT lab (Hardware Laboratory)



Projects Inspection Visit



IEEE ComSoc Membership Development Program



Vice Chancellor Prof. Lawan Sani Taura, making remarks during the IEEE ComSoc Program



Award of Excellence presented to the Vice Chancellor by the IEEE Nigeria Chair, John Funso Adebayo



Award of Excellence presented to the Vice Chancellor by the IEEE Nigeria Chair, John Funso Adebayo



Data Communication and Networking lab



Programming lab



Artificial Intelligence and Data Science Lab



Learning Management System Training in the Cyber Security Lab



Alternative Power Supply by the NITDA



Interaction Session between the Faculty leadership and Faculty Union



Sub Dean, Dr. Salisu Garba Delivering Speech to Faculty Student Union



NACOS Officials and the Faculty Dean and the Sub Dean



Faculty Students Soccer team

Name: _____ Designation:

_____ Signature & Date:
