

Hindustan College of Science and Technology

Farah-Mathura

(AICTE approved & affiliated to AKTU)



Key Indicator 2.3

Student Centric Methods

Metric 2.3.1

Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences and teachers use ICT-enabled tools including online resources for effective teaching and learning process

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ICT tools and Resources

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2.3.1 Teachers use ICT enabled tools for effective teaching leaning process:

Information and Communication Technology (ICT) in education is the mode of education that use information and communications technology to support, enhance, and optimize the delivery of information. ICT can lead to an improved student learning and better teaching methods. So, In reference to the modern era it is essential for the students to learn the latest technologies in order to be corporate ready. As a consequence, teachers are combining technology with traditional mode of instruction to engage students in long term learning. In addition to traditional classroom instruction, the College integrates ICT-enabled teaching.

ICT Tools available in College:

- **Projectors-** Total 43 classrooms and seminar halls with ICT - enabled facilities.
- **Printers and Scanners** – Multi-functioning printers/ Scanners are installed at HOD Offices in each department and all prominent places.
- **Photocopier machines** – 6 photocopier machines are available at prominent places in the college such as Registrar and COE Offices, Library etc..
- **Desktop and Laptops-** Total 651 systems are installed at Computer Labs, Faculty cabins, each Department's HOD offices all over the campus.
- **Pen Tablets:** College provides Pen tabs to the faculty members for numerical Subjects as sufficient no. of Pen Tabs are available.
- **Auditorium-** APJ Abdul Kalam Auditorium of the college have all the facilities such as mike, projector, cameras and computer system.
- **Seminar Rooms/ Media Centres-** In each department media centres are equipped with all digital facilities.
- **Online Classes:** Online classes are taken through Zoom, Google Meet, Google Classroom etc.
- **Digital Library Resource:** DEL NET, MYLOFT etc
- **MOOC Platform:** (NPTEL Courses)
- **Uninterrupted Internet connectivity:** Through Wi-fi and LAN.


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ICT Tools used by Faculty for enhanced Teaching Learning Process:

- The majority of the faculty employs interactive teaching approaches through seminars, debates, group discussions, assignments, quizzes/tests/vivas, and laboratory work.
- Faculty members also created video lectures as online learning resources which are available on You Tube and the same is shared with the students through WhatsApp groups.
- College provide online library facility for faculties as well as student for enhancing their skills by e-consortium. ICT enabled virtual laboratories, e learning-resources from National Programme on Technology Enhanced Learning (NPTEL), open educational resources etc.
- The faculty members used Google meet or Zoom to conduct tests and for lecture delivery as and when needed. They also use many interactive methods for effective teaching such as PPT with animations, Video clippings, Use of online resources from NPTEL, You Tube links, Virtual labs, online assessment tools etc.
- WhatsApp groups used as platforms to communicate, make announcements, address queries, and share information.
- To teach problem solving subjects in an online mode, faculty have used various online tools like- whiteboard in Zoom, Jam board in Google meet, etc. They also use Pen tabs for live solving problem. Various important activities such as Project presentation, Debates, Group discussions are also organized time to time.
- The research journals and e_books are available on online library to our faculty as well as students.
- Webinars, workshops and guest lectures on the new developments in the core subjects for effective teaching and learning by Industry experts and Alumni on Zoom platforms are organized by each department.

Supporting Documents:

Annexure A: Link to video Lectures

Annexure B: Desktop/ Laptop description in the college

Annexure C: LCD projectors enabled class rooms/ media centres in the college

Annexure-A

Department of Information Technology
Links to video lectures

1. Data Compression Techniques
<https://www.youtube.com/playlist?list=PL6aFkLM6Wp-p9UtMIe5iFNZwC7KjYIYMG>
2. Computer Network
<https://www.youtube.com/playlist?list=PL6aFkLM6Wp-ogOIuVC9KWFZmraQf6RmnR>
3. Graph Theory
<https://www.youtube.com/playlist?list=PL6aFkLM6Wp-rcuJXJVfQP1BEwyPR9LJKS>
4. Compiler Design
<https://www.youtube.com/playlist?list=PL6aFkLM6Wp-rYWISJGmOtex694M3UvG4F>
5. Information Retrieval
<https://www.youtube.com/playlist?list=PL6aFkLM6Wp-pbrtvQKgjGQ4HA4bPO3jUt>
6. Operating Systems
<https://www.youtube.com/playlist?list=PL6aFkLM6Wp-pH-JAE1J94k2jZjwv9ZaBA>
7. Discrete Structures & Theory of Logic
https://www.youtube.com/playlist?list=PL6aFkLM6Wp-oVatV7TN7IB3jc_Odr1Wut
8. Theory of Computation / TAFL
https://www.youtube.com/playlist?list=PL6aFkLM6Wp-q0pEjqd9_QN3G_rgeV12ql
9. JavaScript for Beginners Full Course
<https://www.youtube.com/playlist?list=PL6aFkLM6Wp-ophk49lZ7G4xZrUcRusPmk>
10. Cryptography & Network Security
<https://youtube.com/playlist?list=PL6aFkLM6Wp-rW3NYtDrxafgGF0XuCCTH4>

Department of Computer Science & Engineering

Links to video lectures

11. Virtual memory | Memory Management | Operating System

<https://youtu.be/n9pR7vS33vw>

12. Functions| Onto Function

<https://youtu.be/7kiv2pvjI6Q>

13. Functions | One-to-One Function

<https://youtu.be/L8g2hxB7CP4>

14. Discrete Structures and Theory of logic | functions

<https://youtu.be/gi5eYsAA4MY>

15. Disk Scheduling Algorithm | FCFS | Operating System

<https://youtu.be/B2SCibKqsu0>

16. Most Frequently Used Page Replacement Algorithm | Memory Management | Operating System

<https://youtu.be/ayjN4m6XMsk>

17. Least Frequently Used Page Replacement Algorithm(LRU) | Memory Management | Operating System

https://youtu.be/1xx-Qu2_L30

18. Optimal Page Replacement Algorithm | Memory Management | Operating System

<https://youtu.be/kWlrQ8YxzBc>

19. Belady's Anomaly in FIFO Page Replacement Algorithm | Memory Management | Operating System

<https://youtu.be/B0WzvHFJoIQ>


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- 20. Page Replacement Introduction | FIFO Page Replacement Algorithm with example |
Memory Management
<https://youtu.be/dWYOVrWaM7I>

- 21. Numerical on DEADLOCK concept | Memory Management Operating System |
Computer Science
<https://youtu.be/cZ25pqAIoKk>

- 22. Inverted Paging | Memory Management | Operating System | Computer Science
• <https://youtu.be/xUn94chmBvI>

- 23. Introduction to Computer Network
<https://youtu.be/cIPjqaE4rt8>

- 24. Application Layer
<https://youtu.be/XDFLqFfIUhc>

- 25. network security part 2
<https://youtu.be/vFF6VsmGfoU>

- 26. Presentation Layer Network security part 1
<https://youtu.be/J6tul55Oi30>

- 27. UDP- User Datagram protocol
<https://youtu.be/kOjPaZnd4a8>

- 28. TCP Protocol Handshaking
<https://youtu.be/e2rW-CtJTk0>

- 29. Transport layer Port addressing
<https://youtu.be/y4B7iebOhCE>

30. Error Control ARQ protocol efficiency Part 3

<https://youtu.be/ntYRvAqOnFw>

31. Error Control ARQ in detail Part 2

<https://youtu.be/sSqN2cjL-b4>

32. Flow Control and Error Control Part 1

<https://youtu.be/RRnjqLhGvUE>

33. Ethernet- IEEE 802 3

<https://youtu.be/j4MGWrrGtXs>

34. Hamming Code

<https://youtu.be/5Nw1QArGwS0>

35. Error Detection Techniques

<https://youtu.be/RQN2r1ddIZQ>

36. Link state routing and BGP

<https://youtu.be/EbUBevfgX-I>

37. Routing Algo Distance vector

<https://youtu.be/him9SfdA2Ig>

38. Network layer Design issues

https://youtu.be/X1USqn04O_A

39. congestion Control and QoS by Vijay Katta

<https://youtu.be/FKTQvbUoiG8>

40. IP addressing 3 tutorial

<https://youtu.be/wJheTCTBLos>

41. IP Address by Vijay Katta

https://youtu.be/rax_KqEi6wg

42. IP address 2 by Vijay Katta

https://youtu.be/pOL_ED24uZE

43. IP packet Format

https://youtu.be/N7goMEdi_CY



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Annexure-B

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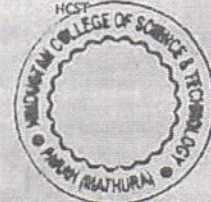
All Dept. Computers Lab Status Report

S.No.	Department	Location	Room No.	Lab Name	Total No of System	Model	System Configuration
1	CSE	First Floor	210	Lab 1	30	HP	Core i5, 8-Gb RAM, 1 Tb HDD
2		First Floor	212	Lab 2	30	Lenovo	Core i3/Core 2 Duo, 4 Gb RAM
3		First Floor	214	Lab 3	31	HP/HCL	Core 2 Duo, 2-Gb RAM, 320-Gb HDD
4	IT	First Floor	209	Lab 4	25	HP	Core i5, 8 Gb RAM, 1 Tb HDD
5		First Floor	230	Lab 5	25	HP/HCL	Core 2 Duo, 2 Gb RAM, 320-Gb HDD
6		First Floor	230	Lab 6	26	HP/HCL	Core 2 Duo, 2 Gb RAM, 320-Gb HDD
7	CSE/IT	First Floor	213	Lab 7	30	Lenovo	Core i3, 8-Gb RAM, 500 Gb HDD
8	EC	Second Floor	310	EC Cad Lab	24	HP/HCL	Core 2 Duo, 2 Gb RAM, 160 Gb HDD
9	EC	Second Floor	302	DSP Lab	16	HP/HCL	Core 2 Duo, 1 Gb RAM, 160 Gb HDD
10	EI	Second Floor	316	EI Cad Lab	25	HP/HCL	Core 2 Duo, 1 Gb RAM, 160 Gb HDD
11	ME	Ground Floor	156	ME Cad Lab	30	Lenovo	Core i3, 4 Gb RAM, 500 GB HDD
12	EE	Ground Floor	110	EE Cad Lab	15	HCL	Core 2 Duo, 2 Gb RAM, 160 GB HDD
13	Civil	Second Floor	351	Civil Cad Lab	25	HP/HCL	Core 2 Duo, 1 Gb RAM, 160 Gb HDD
14	Bio	Third Floor	404	Bio Lab	25	HP	Core 2 Duo, 2 Gb RAM, 160 GB HDD
15	Applied	Thlrd Floor	414	PC 3	25	HP/HCL	Core 2 Duo, 1 Gb RAM, 160 Gb HDD
16		Third Floor	415	PC 4	25	HP/HCL	Core 2 Duo, 1 Gb RAM, 160 Gb HDD
17		Third Floor	410	CCP	30	HP/HCL	Core 2 Duo, 1 Gb RAM, 160 Gb HDD
18	CCL	Ground Floor	Lib Block	CCL	14	HCL	Core 2 Duo, 1 Gb RAM, 160 Gb HDD
Total Lab Systems					451		

Teaching/Non-Teaching/Administration Systems		200
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Total System in HCST		651
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Mr. Kapil Chaudhary
System Administrator



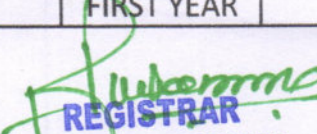
Annexure-C

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2.3.1 ICT enabled facilities in campus

S.No	Room number of classroom	Department	Type of ICT facility
1	104	EE	LCD-PROJECTOR with LAN
2	107	EE	LCD-PROJECTOR with LAN
3	108	EE	LCD-PROJECTOR with LAN
4	149	ME	LCD-PROJECTOR with LAN
5	152	ME	LCD-PROJECTOR with LAN
6	154	ME	LCD-PROJECTOR with LAN
7	349	CE	LCD-PROJECTOR with LAN
8	353	CE	LCD-PROJECTOR with LAN
9	354	CE	LCD-PROJECTOR with LAN
10	201	CSE	LCD-PROJECTOR with LAN
11	204	CSE	LCD-PROJECTOR with LAN
12	206	CSE	LCD-PROJECTOR with LAN
13	207	CSE	LCD-PROJECTOR with LAN
14	216	CSE	LCD-PROJECTOR with LAN
15	222	CSE	LCD-PROJECTOR with LAN
16	224	CSE	LCD-PROJECTOR with LAN
17	251	CSE	LCD-PROJECTOR with LAN
18	253	CSE	LCD-PROJECTOR with LAN
19	254	DS	LCD-PROJECTOR with LAN
20	255	DS	LCD-PROJECTOR with LAN
21	257	DS	LCD-PROJECTOR with LAN
22	221-A	IT	LCD-PROJECTOR with LAN
23	221-B	IT	LCD-PROJECTOR with LAN
24	223	IT	LCD-PROJECTOR with LAN
25	303 (NB)	BT	LCD-PROJECTOR with LAN
26	304(NB)	BT	LCD-PROJECTOR with LAN
27	403(NB)	BT	LCD-PROJECTOR with LAN
28	306	ECE	LCD-PROJECTOR with LAN
29	309	ECE	LCD-PROJECTOR with LAN
30	312	ECE	LCD-PROJECTOR with LAN
31	501 (NB)	CHEM	LCD-PROJECTOR with LAN
32	504-A (NB)	CHEM	LCD-PROJECTOR with LAN
33	504-B(NB)	CHEM	LCD-PROJECTOR with LAN
34	437	FIRST YEAR	LCD-PROJECTOR with LAN
35	439	FIRST YEAR	LCD-PROJECTOR with LAN
36	443	FIRST YEAR	LCD-PROJECTOR with LAN


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37	446	FIRST YEAR	LCD-PROJECTOR with LAN
38	447	FIRST YEAR	LCD-PROJECTOR with LAN
39	448	FIRST YEAR	LCD-PROJECTOR with LAN
40	449	FIRST YEAR	LCD-PROJECTOR with LAN
41	450	FIRST YEAR	LCD-PROJECTOR with LAN
42	451	FIRST YEAR	LCD-PROJECTOR with LAN
43	452	FIRST YEAR	LCD-PROJECTOR with LAN
44	342	MBA	LCD-PROJECTOR with LAN
45	343	MBA	LCD-PROJECTOR with LAN

Registrar
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