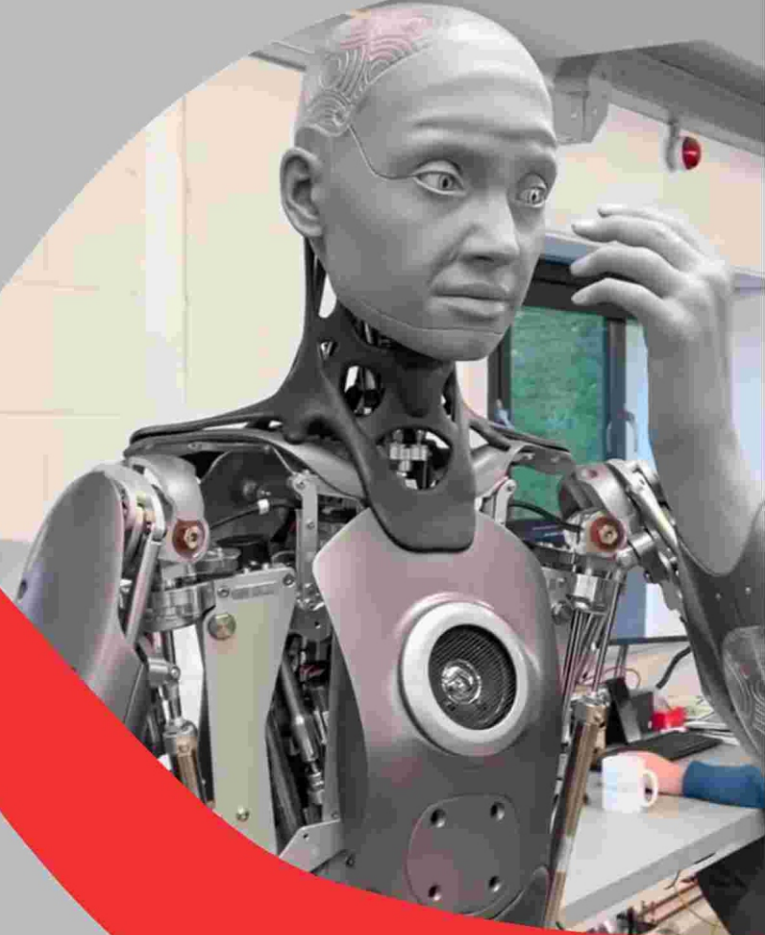


DEPARTMENT OF
ELECTRONICS & COMMUNICATION
ENGINEERING

EDITION-3
2020-2021



GANGA INSTITUTE OF TECHNOLOGY AND MANAGEMENT

DIRECTOR'S DESK



It gives me immense satisfaction that next issue of ECE magazine is ready for the readers. A college magazine mirrors the success story of an institution and act as a great medium to reach out to the outer world. It reflects upon the persistent and committed efforts made by faculty, staff and students for taking the institution one step ahead. Continuing the same tradition, this issue of E-COMMNIKA(3RD), reflects upon commendable contribution made by all members of GITAM family in their fields of expertise as well as for the overall growth of the college. I congratulate everyone for their bit of service for the institution and do expect the same in times to come. I also congratulate the editorial team for bringing out present issue of magazine

Prof. Dr. Aman Aggarwal
Director



HOD MESSAGE

Dear Readers Greetings to you!!

The magazine is a forerunner of all departmental technical activities. With the well qualified faculty & energetic students, the club aims and continuously works for the technical enhancement. The magazine covers the activities

& achievements of the students & faculty. I am pleased to present the issue before the readers.

Read A head And Enjoy... Happy Reading

Dr. Rakesh Kumar Joon

VISION MISSION OF INSTITUTE



GITAM aims to be an outstanding Institute in India through academic excellence in the field of Technology and Management to fulfill the need of the Industry and serve the society.



- ▶ **To provide healthy environment to our students as well as faculty members.**
- ▶ **To achieve excellence in technical education**
- ▶ **To promote holistic development of students through interaction with alumni, academia, Industry and expert lectures**
- ▶ **To attract nurture and retain the best faculty and technical manpower**
- ▶ **To contribute to the society by inculcating professional ethics in the students**
- ▶ **To promote research and development Initiatives**

ELECTRONICS AND COMMUNICATION ENGINEERING DEPARTMENT



The Department of Electronics and Communication Engineering endeavors to develop high quality, technically competent and socially responsible engineers.



- ▶ **To have adequate mechanisms by enhance understanding and implementation of theoretical concepts in practical scenario.**
- ▶ **To develop technical manpower by organizing workshops, expert lectures and industrial visits on regular basis.**
- ▶ **To impart quality teaching-learning experience with state of the art laboratories.**
- ▶ **To prepare the students to meet the global needs of Industry and Society by inculcating professional ethics**

ABOUT ECE

The Department of Electronics and Communication Engineering is established to run a four years full time B.Tech programme as well as two years M.Tech Programme with focus on latest developments in engineering & technology. The Department has highly qualified and well experienced faculty. Each faculty member is at least a postgraduate in engineering in his/her field and some of them are PhD (Doctorate) in Electronics and Communication Engineering branch.

PROGRAMME	DURATION	INTAKE
B.TECH ELECTRONICS & COMMUNICATION ENGINEERING	4 YEARS	60
B.TECH ELECTRONICS & COMMUNICATION ENGINEERING (LEET)	3 YEARS	6
M.TECH ELECTRONICS & COMMUNICATION ENGINEERING	2 YEARS	24
DIPLOMA ELECTRONICS & COMMUNICATION ENGINEERING	3 YEARS	60
DIPLOMA ELECTRONICS & COMMUNICATION ENGINEERING (LEET)	2 YEARS	6

PROGRAM OUTCOMES

Engineering Graduates will be able to:

PO1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2. Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PEO (PROGRAMME EDUCATIONAL OBJECTIVES)

The student will be able to:

PEO1: Devise and deliver efficient solutions to challenging problems in the field of Electronics Communications Engineering and allied disciplines using engineering fundamentals.

PEO2: Employ and reinforce their existence in reputed industrial organizations/ companies by training them with soft skills, domain knowledge and managerial skills.

PEO3: Assess and motivate young engineers to become good human being and responsible engineer for the welfare of society.

PEO4: Develop their attitude to adapt new ideas, innovations and technologies through life long learning practices.

PSO (PROGRAM SPECIFIC OUTCOMES)

The Student will be able to:

PSO-1: Analyze, design and implement hardware and software skills to solve problems in electronics and communication engineering in various areas such as analog & digital electronics, signal processing, communication, VLSI, embedded systems and its allied branches by applying basic sciences and engineering fundamentals.

PSO-2: Adaptability to rapid changes in the field of electronics and communication engineering and also employs their skills for the multidisciplinary work environment, to be a successful professional/entrepreneur and worthy citizen.

FACULTY EDITOR'S

▶ **MR. SHANKAR KUMAR VIJAY**

STUDENT EDITOR'S

▶ AJRUDDIN	18ECE004	2020-21
▶ PRACHI	20LECE056	2020-21
▶ KAMESH	19MTECE007	2020-21

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- ▶ **Online Expert lecture on Life Cycle of Defense Products**
- ▶ **Innovations & Next Generation 6G**
- ▶ **Life Cycle of Defense Products**
- ▶ **Online Expert lecture on Robotics in Embedded**
- ▶ **Expert lecture on VHDL and Verilog**
- ▶ **Poetry section.**

CROSSWORDS

Name: _____ Date: _____

Engineering Jobs

C C V R K A V H T I Y Y P H F L A M N S K Q D L
 K Z G K N S W E L E C T R I C A L Y N S Y U K A
 D U Q K A G R I C U L T U R A L A X K A G Z S C
 F N G I S E D G H B R J M W I R D P W B O M E I
 C B L Q I G Z I F Y F L A Y X O V H C V L H I D
 U K Z R C K E A T C I T G L E T G T W D O V N E
 N P T B I X A T E A E E I B C I A Y D M N L D M
 U Y C C T M I A L R W G L G H I I M F R H R U O
 C O P R E K F J A O H W S D O K T R V Y C L S I
 L I B W N L P N A T J Z Q E P R D E V F E F T B
 E W R H I G D I I B G U T R B C P O N F T R R Z
 A B C X K S K N S M B H E U R E F A F E M T I U
 R G Y W E O G R U R A I L R O A D B P Z G N A N
 E R T W T V O M W V D I W T E J D C Y E H L L A
 O Z E Q J S E I T I L I T U K P Z V G Y R R J Y
 U R G U W H S C N O P Z L G F C H E M I C A L N
 J P H A K H T C A N M N V E T E R N A R I A N V
 N R M L E E Q Z T Z K O K P W N I M O F L M Z N
 Y P B I F W G D M I M W V G W C L M Q R H D C H
 O E O T T S I G O L O O Z S L R C O I A C V R Y
 U D P Y K C Y L L A C I D E M L F A T E F O F S
 O F K U D M U P J T J P H C I V H N L O L N H I
 W S T X F L W L T H M H R O C G Q D O C A H M H
 E B T H F V D L A R U C U R T S D D A W B K U X

ZOOLOGIST
 VETERINARIAN
 RAILROAD
 NUCLEAR
 JET
 FOOD
 BIOMEDICAL

YIELD
 UTILITIES
 QUALITY
 MEDICAL
 INDUSTRIAL
 ELECTRICAL
 AGRICULTURAL

X-RAY
 TECHNOLOGY
 PAPER
 LIGHTING
 HIGHWAY
 DESIGN

WATER AND SEWER
 STRUCTURAL
 OIL
 KINETIC
 GENETIC
 CHEMICAL

BEAGLE BONE

DR. RAKESH KUMAR JOON HOD (ECE)



The Beagle Bone is an embedded Linux development board that's aimed at hackers and tinkerers. It's a smaller, more barebones version of the Beagle Board. Both are open source hardware and use Texas Instrument's OMAP processors, which are designed for low-power mobile devices. BeagleBone

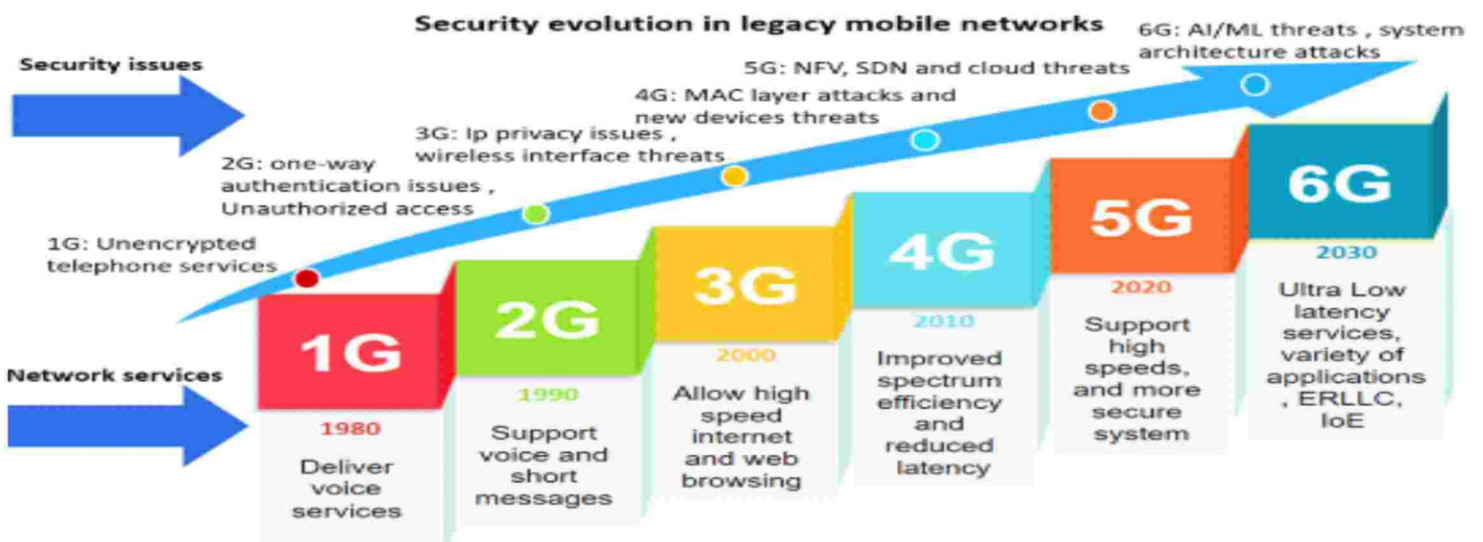
Black is a low-cost, community-supported development platform for developers and hobbyists. Boot Linux in under 10 seconds and get started on development in less than 5 minutes with just a single USB cable.

INNOVATIONS & NEXT GENERATION 6 G

By: Ms. SHANKAR KUMAR VIJAY ,A.P (ECE)

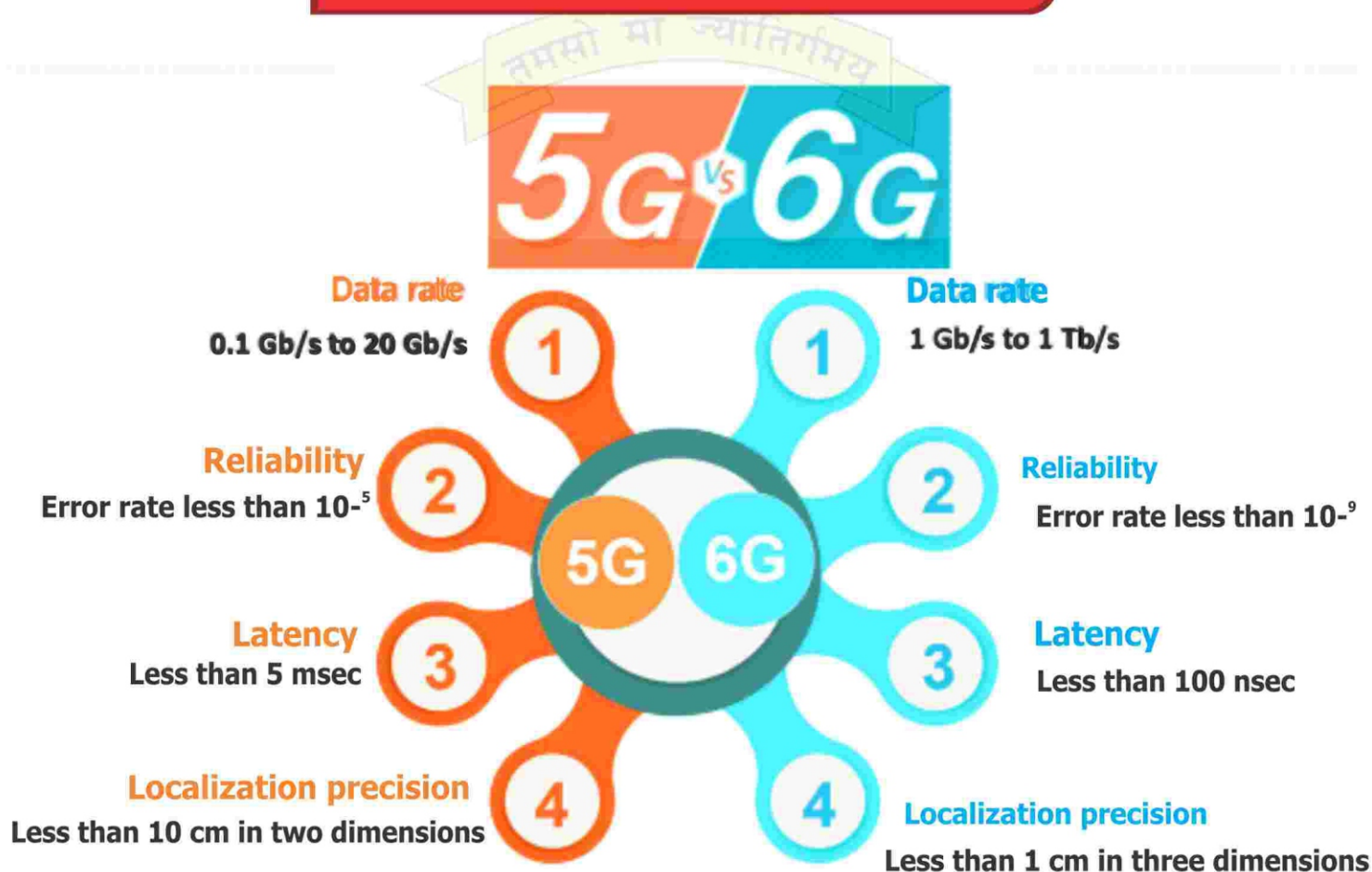
6G technology is a breakthrough. The next generation of telecom networks has started hitting the market end of 2022 and will continue to expand worldwide. 6G (sixth-generation wireless) is the successor to 5G cellular technology. 6G networks will be able to use higher frequencies than 5G networks and provide substantially higher capacity and much lower latency. One of the goals of the 6G internet is to support one microsecond latency communications. This is 1,000 times faster -- or 1/1000th the latency -- than one millisecond throughput.

6G is 10 to x100 faster than what you can get with 5G.



- ▶ 1G, the first generation of telecom networks (1979), let us talk to each other and e mobile.
- ▶ 2G digital networks (1991) let us send messages and travel (with roaming services)
- ▶ 3G (1998) brought a better mobile internet experience (with limited success)
- ▶ 3.5G brought a truly mobile internet experience, unleashing the mobile apps ecosystem.
- ▶ 4G (2008) networks brought all-IP services (Voice and Data), a fast broadband internet experience, with unified networks architectures and protocols.
- ▶ 4G LTE (for Long Term Evolution), starting in 2009, doubled data speeds
- ▶ 5G networks (2019) expand broadband wireless services beyond mobile internet to IoT and critical communications segments.

COMPARISON BETWEEN 5G & 6G



GATE COACHING/IES/SSCS AND OTHER PSUS PREPARATION



POETRY SECTION

Going On

We are the survivors
 We have looked Death in the eye and gone on
 seemingly untouched, but do not think we are unaffected
 Do not call us lucky
 for we *are* injured—each of us in different ways

We bear our scars
 inside our hearts and minds
 It may be decades before we realize
 the extent of the damage
 and it may never heal

We have been changed
 in ways we may not know
 Our life paths have been altered
 often without our consent or awareness
 There is no undoing the change

We are different now
 Some of us are more than we once were
 some are less, sadly or not
 But we are still survivors
 We shall go on

I AM AN ENGINEER

I'M Am Engineer

I am innovative.
 Understand the language of mathematics.
 As well as the scientific methods that are stated.
 with knowledge of thermodynamics.

I design parts with AutoCAD,
 Then assemble them together.
 High salar, which is great !
 Hopefully it will last forever.

Many various fields.
 So much job opportunities,
 To make objects like titanium shields,
 Or other things to improve our communities

Skateboards have seven layers of veneers.
 Trust me, i,m an Engineer!

ELECTRONICS & COMMUNICATION ENGINEERING

Why GITAM?	Why ECE?	Aspirants often Made Mistakes While Choosing Engineering Branches
❖ Best Academics and Results	❖ Most Flexible, Multidimensional & Unique Branch	❖ Advised by Parents
❖ State-of-the-art Laboratories	❖ White Collar Job	❖ Advised by Relatives
❖ Experienced and dedicated Faculty	❖ More Job Opportunities than any other Engineering Branch	❖ Advised by Friends
❖ Best Placement	❖ Govt. of India Initiative for ECE : Make in India, Digital India, National Digital Communications Policy(NDCP) -2018 & National Policy on Electronics (NPE) - 2018	❖ Do not See the Market Scenario after 3-4 Years
❖ Best Infrastructure	❖ Regular Industrial Visits and Expert lectures	❖ Do Not See Future Prospect of the Branches

Job Opportunities

Government-Sector

- ❖ PSU(DMRC, BEL, ISRO, DRDO, ONGC, ECIL, BHEL, BARC, NTPC, HPCL, NHPC, POWER GRID, CIL, IOCL, NALCO, VIZAG STEEL, SJVNL, IFFCO, AAI, GAIL, SAIL, HAL, BPCL, NITRO, Railways,) and many more.....
- ❖ DEFENCE SECTOR: ARMY, NAVY, AIR-FORCE and Paramilitary Forces.
- ❖ COMMUNICATION Sector: BSNL, MTNL, Prasar Bharti and many more.....

Private-Sector

- ❖ CORE ELECTRONICS & IT COMPANIES :(GOOGLE, IBM, CISCO, INFOSYS, TCS, WIPRO, HCL, TECH MAHINDRA, INTEL, DELL, CONVERGYS, COGNIZENT, ARICENT, HUWAI, PANASONIC, LG, MOTOROLA, CADENCE, SAMSUNG, PHILIPS, SIEMENS, VIDEOCON, HONEYWELL, TEXAS Instruments) and many more.....
- ❖ COMMUNICATION SECTOR: RELIANCE JIO, AIRTEL, IDEA-VODAFONE, DTH and many more.....

Entrepreneur

- ❖ APP development, SOLAR, CCTV Security, LED Lightening, MOBILE Maintenance, AUTOMATION, BATTERY Production & Maintenances, COMPUTER Assembling (Hardware and Networking), E-Waste Recycling, Electronic Toy Production, Electronics & Electrical Appliance Repairing & Maintenance, OFC Production, PCB Design, EMBEDDED SYSTEM, MANUFACTURING INDUSTRY and many more.....
- ❖ EMERGING AREAS/TECHNOLOGIES: Smart Cities, IOT, Intelligent Transport System, Consumer Durables, Smart Electricity Meter and many more.....

Education-Sector

- ❖ Universities, Technical Institutes and Training Centers, KVS and many more.....
- ❖ Other Sectors: Medical (X-Ray, ECG, EMG, MRI, ULTRASOUND, SONOGRAPHY Machine etc.) Entertainment Industry and many more.....

Strength and Challenges faced by ECE students:

Strength	Challenges
❖ Well Experienced and Dedicated Faculty	❖ Lack of Proper Training as per the Requirement of the Industry
❖ Active and Supportive Alumni	❖ Lack of Confidence & Discipline
❖ University Best Results	❖ Lack of Communication Skills
❖ Best Placement Assistance	❖ Lack of Focus on Goals

**"SCIENCE IS MAGIC
THAT WORKS,"
KURT VONNEGUT**



PROGRAMMES OFFERED

M.TECH

B.TECH

B.TECH (LEET)

DIPLOMA

DIPLOMA (LEET)

MBA

MCA

BBA

BCA



GANGA INSTITUTE OF TECHNOLOGY AND MANAGEMENT

Bahadurgarh-Jhajjar Road, Kablana (Jhajjar)-Delhi NCR

**Approved by AICTE, New Delhi and Recognized under Section 2(f) of UGC Act, 1956
& Affiliated to Maharshi Dayanand University, Rohtak and HSBTE, Panchkula**

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