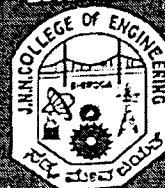




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**JNN COLLEGE OF ENGINEERING (JNCE)**  
 SHIVAMOGGA - 577 204

ESTD : 1980



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 UG Programs: CE, ME, EEE, ECE, GSE, ISE, TCE accredited by NBA: 1.7.2019 to 30.6.2022,  
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# ICTC-2020 (Online)

Department of  
 Electronics & Telecommunication Engineering  
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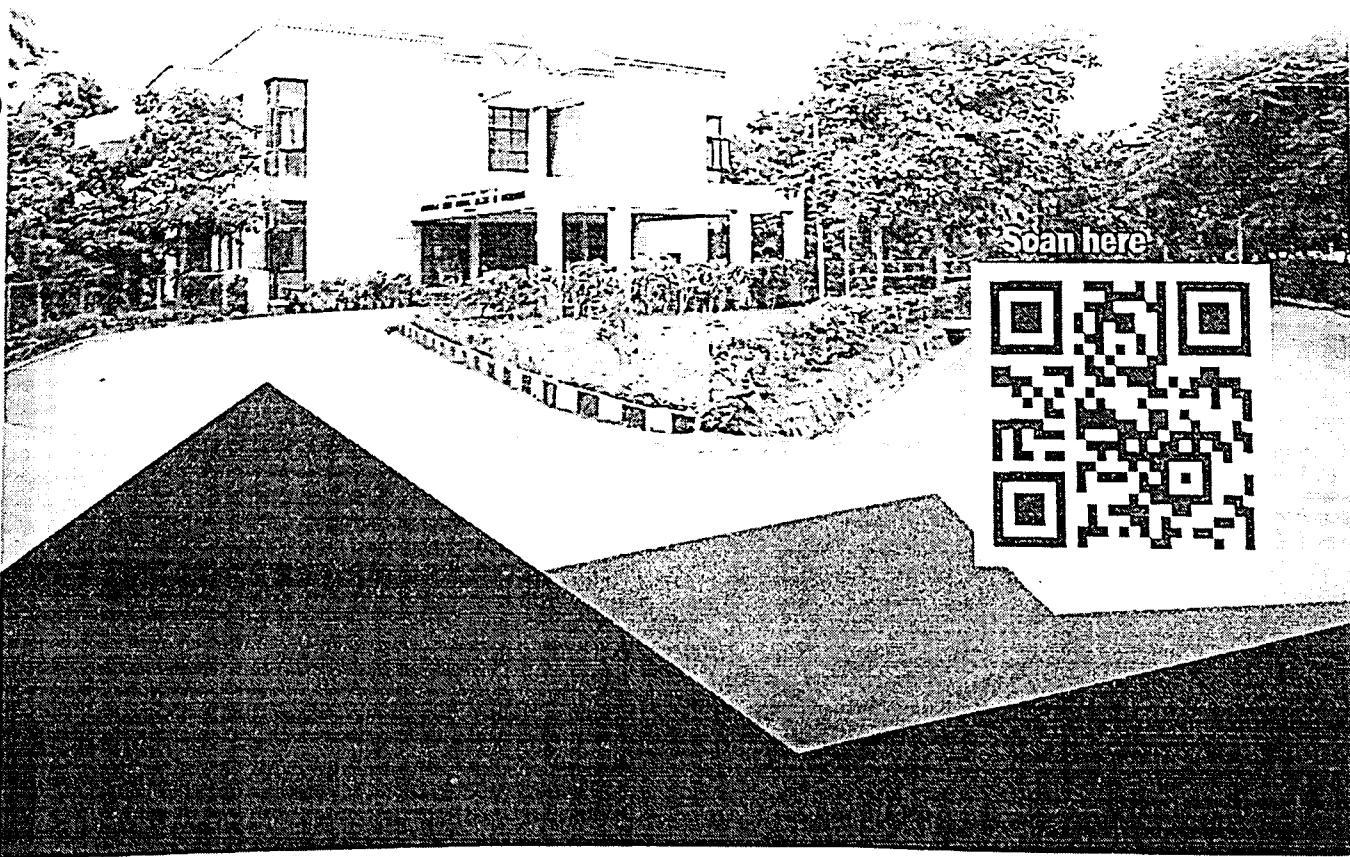
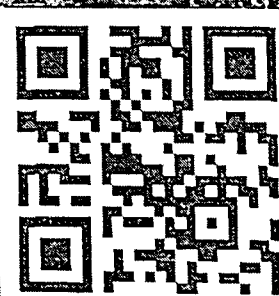


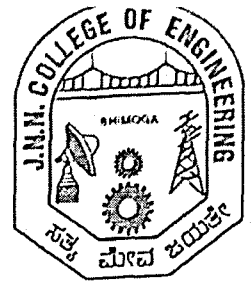
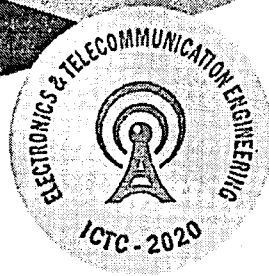
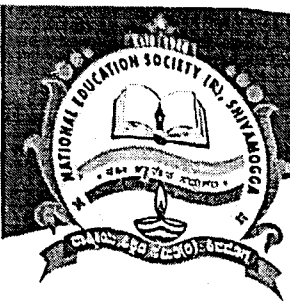
**Date: 16<sup>th</sup> & 17<sup>th</sup> October 2020**

**Time: 9:30 am**

Conference Zoom Link: <https://qrqo.page.link/y4B5g>

Scan here





National Education Society (R.)

# J N N College of Engineering, Shivamogga

(Approved by AICTE, New Delhi, Certified by UGC 2f & 12B, Accredited  
by NAAC -'B', UG programs:CE,ME,EEE,ECE,CSE,ISE,TCE accredited by NBA:1.7.2019 to 30.6.2022,  
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## DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION ENGINEERING INVITATION

Cordially invites you to the inauguration programme of International conference titled  
"COMPUTING, TELECOMMUNICATION AND CONTROL"  
(ICTC-2020)

on 16/10/2020 and 17/10/2020 (Online)

**CHIEF GUEST : SRI. SUMANTH PARIMAL**  
FOUNDER PARTNER & CHIEF ANALYST,  
FIVE JEWELS RESEARCH, INNOGRESS NCR, DELHI

**GUEST OF HONOR : SRI. S.N. NAGARAJA**  
SECRETARY, NES. SHIMOGA

**PRESIDED BY : DR. H.R. MAHADEVASWAMY**  
PRINCIPAL, JNNCE, SHIMOGA

**HONOURABLE PRESENCE : DR. P. MANJUNATHA**  
DEAN ACADEMIC, JNNCE, SHIMOGA

**DR. M. RAJATH HEGDE**  
DEAN INFRASTRUCTURE, JNNCE, SHIMOGA

**CONFERENCE CHAIR:**

**DR. USHADEVI M. B.**  
HOD, DEPT. OF E&TE, JNNCE

**CONFERENCE CONVENERS:**

**MR. BENAK PATEL M. P.**  
**MRS. RASHMI M. HULLAMANI**

**HOD, FACULTY & STAFF, DEPT. OF E&TE**

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Dr. G Sadashivappa, Professor, Dept. of Telecommunication Engineering, RVCE Bangalore.

Dr. Vidyashankar M N, Rtd. Additional, Chief Secretary, Govt. of Karnataka

Dr. Abhishek Shukla, Associate professor CSE from R D Engineering College Technical Campus Duhai, Ghaziabad, Uttar Pradesh.

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Dr. A L Choodarathnakara, Associate Professor, Dept. of E&CE, Govt., Engineering college, Kushalnagara.

Prof. M.N Honda, Director, Bharati vidyapeeth's institute of computer applications and Management (BVICAM), New Delhi.

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Program Chair : Dr. P. Manjunatha, Dean Academic, JNNCE, Shivamogga

Conference Chair : Dr. Ushadevi M.B., HOD - E & TE, JNNCE, Shivamogga

Conference Convener : Mr. Benak Patel M.P.  
Mrs. Rashmi M. Hullamani

Organizing Committee: Faculty Members of E & TE

### PAYMENT DETAILS

- \* Payable at the time of Author/Delegate Registration
- \* Payable through DD drawn in /o "The Principal, JNNCE" on any nationalized bank, payable at Shivamogga or by NEFT as per the details given below:

In favor of : PRINCIPAL, JNNCE  
Bank : CANARA BANK  
Branch : JNNCE CAMPUS, SHIVAMOGGA  
Current A/c No : 632201000004  
IFS Code : CNRB0006322

### IMPORTANT DATES

LAST DATE FOR  
SUBMISSION OF  
PAPERS

20<sup>th</sup>

September  
2020

COMMUNICATION  
OF ACCEPTANCE

25<sup>th</sup>

September  
2020

LAST DATE FOR  
REGISTRATION

5<sup>th</sup>

October  
2020

### ADDRESS FOR COMMUNICATION

Mr. Benak Patel M. P.  
Asst. Professor, Dept. of E&TE  
E-mail: benapk7@jnnce.ac.in  
Ph: 8317472873

Mrs. Rashmi M. Hullamani,  
Asst. Professor, Dept. of E&TE  
E-mail: rashmimh@jnnce.ac.in  
Ph: 9663375302

### JNN COLLEGE OF ENGINEERING

Savalanga Road, Navale,  
Shivamogga - 577 204 (Karnataka)

Ph. 08182-270450 /276707/8/9

Fax : 08182-222450

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**International Conference**  
on  
**"Computing, Telecommunication  
and  
Control ICTC-2020"**  
on  
**16<sup>th</sup> & 17<sup>th</sup> October, 2020**



Organized by :

Department of Electronics & Telecommunication  
Engineering

in association with :



ISTE, New Delhi  
IETE, Shivamogga Centre  
&

Internet Society Rural Development SIG

## ABOUT NATIONAL EDUCATION SOCIETY INES

Established in 1946 by freedom fighters and philanthropist of high repute, with a mission "to provide quality education at a reasonable cost" giving emphasis on rural and women education.

As set up 35 - educational institutions in the mainad region of Karnataka state, in a range of disciplines such as engineering, science, pharmacy, commerce, humanities, education, law, business administration, physical education, computer application and applied sciences. The management is comprising of highly respected persons from different professions and social service committed to carry forward the enlightening vision and the illustrious legacy of its founders.

## ABOUT JNN COLLEGE OF ENGINEERING (JNNCE)

JNNCE was Established in the year 1960 by the National Education Society. JNNCE is affiliated to Visvesvaraya Technological University (VTU), Belgaum and recognized by the All India Council for Technical Education (AICTE). It offers 7 BE programs (all accredited by NBA upto 30-06-2022) and 2 M.Tech programs along with MBA and MCA. It has 7 research centers recognized by VTU. Spread over 29.4 acres, caters to the needs of nearly 3750 students and 50 staff with state-of-the-art technology backed-up well-equipped laboratories and workshops, library, hostels, playgrounds and other amenities. The college has 46 Doctorates and 56 research scholars to its credit. The college organizes international and national level workshops, conferences, seminars and short-term courses on a regular basis.

## ABOUT THE DEPARTMENT

The Department of Electronics and Telecommunication Engineering was started in the year 2000 and accredited by NBA. New Dean from 01-07-2019 to 30-06-2020. Department has well equipped laboratories, qualified and experienced staff catering to the needs of students. UG students are actively involved in carrying out their projects under New Age incubation of Karnataka. The department has IETE and ISF forums. Students secured ranks at university levels. Department has NODAL centre for e-yatra robotics lab under IIT Bombay.

## ABOUT THE CONFERENCE

International Conference on "Computing, Telecommunication and Control (ICTC-2020)", will be held during 16<sup>th</sup> & 17<sup>th</sup> October, 2020 in JNN College of Engineering, Shimoga, Karnataka, India. ICTC 2020 is to bring together innovative academics and industrial experts in the field of Electronics, Telecommunication, Computer Science, and Information Technology to a common forum.

The Primary goal of the International Conference is to focus on Emerging Technologies in Telecommunication, Computing and Control for Smart Applications. It is also aimed at addressing the critical need of the global challenges by bringing together leading

academic scientists, Researchers, Scholars, Industrial practitioners, Government organizations and students to exchange and share their experience and research outcomes in an intellectually and professionally stimulating forum. The conference is aimed at providing a platform to all researchers to interact, share their research findings and to discuss their research ideas with the co-researchers from all over the world. It also provides an opportunity to highlight recent developments and to discuss future directions on these exciting fields.

There will be Keynote lectures by experts in various fields will inspire the researchers and provide an exposure to various aspects and an opportunity for discussions with distinguished experts. It is earnestly hoped that the conference will be of great success in bringing more researchers together.

Researchers from various research laboratories, industries, academia and the research scholars pursuing their Doctoral / Masters Work are invited to present their original work and participate in ICTC-2020, a two-day online event in the academic and serene environs of JNNCE, Shimoga. The ICTC 2020 conference is organized by Electronics & Telecommunication Engineering Department of JNNCE.

English is the official language of the conference. We welcome paper submissions. Prospective authors are invited to submit full (and original research) papers (which is NOT submitted or published or under consideration anywhere in other conferences/journal) in electronic (PDF only) format through the easy chair conferences management system website.

## CONFERENCE SUB-THEMES

### COMPUTING

- >>> Automated Software Engineering
- >>> Bioinformatics and Scientific Computing
- >>> Computer Animation and Computer Games
- >>> Computer Graphics and Virtual reality
- >>> Computer Networks and Water marking
- >>> Computer Security and Data Encryption
- >>> Mobile Computing
- >>> Digital Security
- >>> Multimedia applications
- >>> Reconfigurable Computing Systems
- >>> Image Processing
- >>> Applications of Computer Science.

### TELECOMMUNICATION TECHNOLOGIES

- >>> Wireless Communication
- >>> 5G and beyond Technology
- >>> Mobile and Wireless Network
- >>> Wireless technology in e-health
- >>> Satellite Communication
- >>> Green Communication Challenges
- >>> Multi-hop Routing
- >>> Optical Communications.

### CONTROL

- >>> Controllability and Observability
- >>> Feedback systems
- >>> High Voltage Engineering and Insulation Technology
- >>> Computer Aided Design and Manufacturing
- >>> Mechatronics
- >>> Electrical Materials.

## CALL FOR PAPERS

ICTC 2020 is an International Conference where theory, practices, and applications of Computing, Telecommunication and Control and related topics are presented and discussed. Original contributions are solicited on topics covered under broad areas such as (but not limited to above mentioned areas)

## PAPER SUBMISSION

All full papers submitted will be subjected to a review process through an review panel. Comments of the reviewers will be directed to the authors prior to the Camera Ready Paper Submission deadline. So that they can be accommodated in the camera ready papers.

The Full paper should not be more than 6 pages (maximum) and the paper format is double column style. All submissions (PDF format) can be submitted through the Easy chair Conference papers submission link: <https://easychair.org/conferences?conf=ictc2020>

## REGISTRATION

Once your paper is accepted the registration phase begins. It is mandatory for at least one author of an accepted paper to register in order for the paper to appear in the Proceedings and be included in the Technical Program. If an author has got more than one accepted paper, each paper has to be registered. Registration Fee includes Proceedings, Publication in College Journal JNNCE Journal of Engineering & Management (JJEM) ISSN: 2582-0079.

| Item              | For Authors from Host Country | Foreign Delegate |
|-------------------|-------------------------------|------------------|
| Registration Fees | Rs. 500/-                     | US\$ 20          |
| Attendee          | Rs. 200/-                     | US\$ 15          |

## INTERNATIONAL ADVISORY COMMITTEE

**Dr. V. Murugesh**, Ph.D., Professor, Department of Computer Science, Cihan University- Erbil 100St. Nawruz, Erbil, IRAQ.

**Sri Vishnu Pendyala**, Software Engineer, CISCO, USA.

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**Jawaharlal Nehru National College of Engineering, Shivamogga**  
**Department of Electronics & Telecommunication Engineering**



**International Conference on "Computing, Telecommunication and Control"**  
**[ICTC-2020]**

**Session Time Table Day 1**

Date: 16.10.2020

Time Slot: 11:15am to 12:15pm

Theme: Control

| Sl No | TITLE  | TIME SLOT          | AUTHORS   | SESSION CHAIR   |
|-------|--|--------------------|---|---|
| 1     | Agrobot  | 11:15 to 11:30am   | Harsha R<br>Dr Veena K.N  | <b>INTERNAL:</b><br>Dr. Tejaswi<br>Professor and Head of Department<br>Electrical and Electronics,<br>Jnnce Shimaoga<br><br><b>EXTERNAL:</b><br>Dr.A.L.CHOODARATHNAKARA<br>Associate Professor<br>Dept. of E&C Engineering<br>Government Engineering College<br>KUSHALNAGAR-571234, South<br>Kodagu |
| 2     | A SURVEY ON<br>EVOLUTION OF<br>MOBILE<br>GENERATION<br>TECHNOLOGY: 1G<br>TO 5G AND<br>OVERVIEW OF 5G<br>TECHNOLOGY | 11:30 to 11:45am   | Madhusudhan G,<br>Niranjana B G<br>Shrikanth<br>Sheshagiri Bhat |   |
| 3     | Plant-O-Bot  | 11:45 to 12:00pm   | Harsha R<br>Dr Veena K.N  |   |
| 4     | A survey on<br>Energy-Efficient<br>Communication<br>Protocol for WSN.  | 12:00 to 12:15pm   | Pradeepa S C<br>Dr.Ushadevi M B                                 |   |
| 5     | Animal Intrusion<br>Detection System   | 11:45 to 12:00pm   | Harsha R<br>Dr Veena K.N  |   |
| 6     | Development of<br>Flexible<br>Verification<br>Environment for<br>AMBA APB  | 12:00pm to 12:15pm | Nithin H V<br>Kunjan D Shinde                                   |   |



National Education Society (N.E.S.)

Jawaharlal Nehru National College of Engineering, Shivamogga  
Department of Electronics & Telecommunication Engineering



International Conference on "Computing, Telecommunication and Control"  
[ICTC-2020]

Session Time Table Day 1

Date: 16.10.2020

Time Slot: 2:30pm to 4:00pm

Theme: Telecommunication

| SL NO | TITLE  | TIME SLOT        | AUTHORS  | SESSION CHAIR   |
|-------|--|------------------|--|---|
| 1     | IMPROVING PERFORMANCE OF ADHOC ON-DEMAND VECTOR ROUTING USING ANT COLONY ALGORITHM           | 2:30pm to 2:45pm | S Rajesh. ✓<br>Dr.A.N. Jayanthi<br>J Mala          | <b>INTERNAL:</b><br>Dr. Pramod Kumar<br>Associate Professor<br>Department of<br>E&CE,<br>JNNCE,Shimoga.<br><br><b>EXTERNAL:</b><br>Dr. Latha B M<br>Associate Professor<br>Department of<br>E&CE,<br>GMIT, Davanagere |
| 2     | ZigBee Wireless Communication Technology   | 2:45pm to 3:00pm | Kavya T N ✓  |   |
| 3     | Smart 6LoWPAN based Automated Industrial Pollution Monitoring and Alerting System using IIoT | 3:00pm to 3:15pm | Adarsh B U ✓<br>Benak Patel M P<br>Sowmyashree S M |   |
| 4     | Android Mobile Based Voting System through Facial Recognition                                | 3:15pm to 3:30pm | Varshitha Suresh ✓<br>Dr. Nirmala Shivanad         |   |
| 5     | Computation of Preflow Push Algorithms for Increasing Throughput in Multicast Network        | 3:30pm to 3:45pm | Deepa V B ✓<br>Bindusree Naram Chetty ✓            |   |
| 6     | AN EFFICIENT HYBRID MULTICAST PROTOCOL FOR MANET   | 3:45pm to 4:00pm | Kantha Raj ✓<br>Samarth K                          |   |



National Education Society (R.)

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**Department of Electronics & Telecommunication Engineering**



**International Conference on "Computing, Telecommunication and Control"**  
**[ICTC-2020]**

**Session Time Table Day 2**

Date: 17.10.2020

Time Slot: 11:15am to 12:15pm

Theme: Computing

| SL NO | TITLE  | TIME SLOT        | AUTHORS  | SESSION CHAIR   |
|-------|--|------------------|--|---|
| 1     | Intelligent Border Security Intrusion Detection using iot and embedded system                | 11:00 to 11:15am | Latha B M.<br>Mohankumar M S.<br>Surendrakumar N M.<br>Arunakumara N.<br>Varada Sai Prasad | INTERNAL :<br>Dr. Jyothi<br>Professor<br>Department of<br>ISE,<br>JNNCE,Shimoga.                      |
| 2     | DATA MINING TECHNOLOGY USING IN AGRICULTURE DATA SETS AND WEATHER FORECASTING SECTOR         | 11:15 to 11:30am | Vani V G.<br>Gagana H S.<br>Thippeswamy K  |   |
| 3     | Experimental studies on Home Automation using IoT aiming for Security and Safety             | 11:30 to 11:45am | Venkata Sumana C H.<br>Dr. Latha B M.<br>Manjula B K<br>Mahantesh K M                      | EXTERNAL:<br>Dr. Veena,<br>Associate<br>Professor, School<br>of ECE.Reva<br>university ,<br>Bangalore |
| 4     | ADAPTING STRATIFIED SAMPLING TO A NEW TCP FRIENDLY MULICAST CONGESTION CONTROL(TFMCC) SCHEME | 11:45 to 12:00pm | Deepa V B<br>Dr. Ushadevi M B  |   |
| 5     | Experimental Study on Missile Detection and Automatic Destroy System                         | 12:00 to 12:15pm | Manjula B K.<br>Dr. Latha B M.<br>Venkata Sumana C H<br>Pooja S                            |   |



National Education Society (R.)

Jawaharlal Nehru National College of Engineering, Shivamogga  
Department of Electronics & Telecommunication Engineering



International Conference on "Computing, Telecommunication and Control"  
[ICTC-2020]

Session Time Table Day 2

Date: 17.10.2020

Time Slot: 2:30pm to 4:00pm

Theme: Computing

| SL NO | TITLE  | TIME SLOT        | AUTHORS  | SESSION CHAIR  |
|-------|--|------------------|--|--|
| 1     | EEG Signal Classification using Back Propagation Classification for Brain-Computer Interface   | 2:30pm to 2:45pm | Rajashekhar U<br>Neelappa D<br>Rashmi Hullamani<br>Pavithra P S<br>Bhagyamma S<br>Choodarathnakara A L | <b>INTERNAL :</b><br>Dr. Poornima<br>Professor & Head<br>Department of CSE,<br>JNNCE,Shimoga.<br><br><b>EXTERNAL:</b><br>Dr.Sreedharamurthy S K<br>Professor and Head<br>Department of Electronics<br>and Communication<br>Engineering<br>University B D T College<br>of Engineering<br>(A Constituent College of<br>VTU, Belagavi)<br>Davanage-577004 |
| 2     | Diagnosis of Obstructive Sleep Apnea using KNN, Decision Tree and Discriminant Analysis  | 2:45pm to 3:00pm | Manjunatha A,<br>Rashmi M Hullamani,<br>Choodarathnakara A L,<br>Sushma S<br>Sujith J                  |  |
| 3     | Face Authentication System Embedded with PIC18F458 for Automated Teller Machines   | 3:00pm to 3:15pm | Rashmi M Hullamani,<br>Sushma S,<br>Choodarathnakara A L<br>Karibasappa R                              |  |
| 4     | Feature Extraction and Classification of EEG Signal for Brain-Computer Interface using Empirical Mode Decomposition and KNN Classifier | 3:15pm to 3:30pm | Rajashekhar U<br>Neelappa D  |  |





PROGRAMME SCHEDULE

| Date   | Time          | Particulars                           |
|--|---------------|---------------------------------------|
| Day 1<br>16 <sup>th</sup> October 2020<br>Friday   | 09:30 - 11:00 | Inauguration & Key Note Address       |
|  | 11:00 - 1:30  | Paper Presentation                    |
|  | 01:30 - 02:30 | Lunch                                 |
|  | 02:30 - 04:00 | Technical Talk-1 & Paper Presentation |
| Day 2<br>17 <sup>th</sup> October 2020<br>Saturday | 10:00 - 11:00 | Technical Talk2                       |
|  | 11:00 - 01:30 | Paper Presentation                    |
|  | 01:30 - 02:30 | Lunch                                 |
|  | 02:30 - 04:00 | Paper Presentation & Valedictory      |

*AC* AB 10/07/2020  
Head of the Department  
Dept. of Telecommunication Engg.  
Javahar N. S.