Centre of Excellence (Smart Devices & IoT Applications)

The Internet of Things (IoT) is a phrase that refers to physical substance that are make by software, sensors and different techniques that allow to communicate with other equipment and systems over the Internet. According to McKinsey IoT-connected instruments will reach 43 billion by 2023. The Internet of Things (IoT) market continues to expand. According to Digitalist, the IoT's economic impact might reach $11 trillion by 2025, accounting for 11% of global economic value. Machine Learning and Artificial Intelligence developments have simplified the automation of IoT devices. In essence, To deliver optimal automation, AI and machine learning are combined with IoT devices. As a result, the Internet of Things (IoT) has broadened its range of applications across a variety of industries. Applications of the Internet of Things (IoT) include smart environment, Logistic, smart animal farming, smart metering, smart cities, Home automation, eHealth, smart agriculture, etc.

Smart devices, which feature sensors, sophisticated computer units, and communication capabilities, are an essential component of the Internet of Things. Data from sensors is electronically turned into information (output) that can be used by 'intelligent' equipment or persons to make decisions. The data must be evaluated in order to gain insight into how "things" work. Big-data solutions that have been developed in recent years can manage substantially more data, both structured and unstructured.

The Industry 4.0 with all aspects of Interdisciplinary Cyber Physical System will be coordinated under the umbrella of Centre of Excellence for "Smart Devices & IoT" The research program in I"oT & CPS" will provide a platform for in-depth investigations to understand the processes and phenomena that are in operation leading to the development of CPS applications.

National Mission- Interdisciplinary Cyber Physical System" also addresses the rapid global rise of Cyber-Physical Systems. This has the potential to pose unprecedented challenges and stresses to our demographic dividend. It is a huge opportunity to develop new technologies by research, training and skilling in robotics, artificial intelligence, digital manufacturing, big data analysis, deep learning, quantum communication and Internet-of-Things.

There is a need to develop new technologies in services and manufacturing sectors; in agriculture, water, energy & traffic management; health, environment, infrastructure and Geo-Information Systems; security; financial systems and in combating crime.

Program offered

Ph.D (IoT & Cyber Physical System) (Regular/Part time)

Note- Students of any domain and discipline can opt for the program with eligibility criteria.

Eligibility criteria for admission to the Ph.D (IoT & Cyber Physical System) programme

The following are eligible to seek admission to the Ph.D. programme:

Candidates for admission to the Ph.D. programme shall have successfully completed:

1. A Master's degree programme (after 4 year undergraduate degree) with at least 55% marks in aggregate or its equivalent grade 'B' in the UGC 10- point scale (or an equivalent grade in a point scale wherever grading system is followed) or an equivalent degree from a foreign educational institution accredited by an Assessment and Accreditation Agency which is approved, recognized or authorized by an authority, established or incorporated under a law in its home country or any other statutory authority in that country to assess, accredit or assure quality and standards of educational institutions.

2. A candidate seeking admission after a 4-year/8-semester Bachelor's degree with Research should have a minimum CGPA of 7.5/10.

3. Candidates who have cleared the M.Phil. course work with at least 55% marks in aggregate or its equivalent grade 'B' in the UGC 10-point scale (or an equivalent grade in a point scale wherever grading system is followed) or an equivalent degree from a Foreign Institution accredited by an Assessment and Accreditation Agency which is approved, recognized or authorized by an authority, established or incorporated under a law in its home country or any other statutory authority in that country to assess, accredit or assure quality and standards of educational institutions, shall be eligible for admission to the Ph.D. programme.

4. A person whose M.Phil. dissertation has been evaluated and recommended for award of the degree, may be admitted to the Ph.D. programme in any Institution on a provisional basis even before the viva-voice or final defence.

5. A relaxation of 5% of marks, from 55% to 50%, or an equivalent relaxation of grade, may be allowed for those belonging to SC/ST/OBC (non-creamy layer)/Differently-Abled, Economically Weaker Section (EWS) and other categories of candidates as per the decision of the Commission from time to time, or for those who had obtained their master's degree before 19th September 1991.

Note: The eligibility marks of 55% (or an equivalent grade in a point scale wherever grading system is followed) and the relaxation of 5% to the categories mentioned above are permissible based only on the qualifying marks without including the grace mark procedures, if any.