VALUE EDUCATION CT-3,4 ASSIGNMENT

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#IEI: The Institution of Engineers (India) [IEI] is the largest multi-disciplinary professional body of engineers, established in 1920 with its Headquarters located in Kolkata and incorporated under Royal Charter on 9th September, 1935 by the then His Majesty of King George V. The Royal Charter endowed the Institution with the responsibility to promote the general advancement of engineering amongst its members and persons attached to the Institution. After Independence, the Institution is a "Body Corporate" protected under Article 372 of the Constitution of India. The Institution of Engineers (India) is administered by a National Council with the President as its Head.

OBJECTIVE OF IEI'S R & D ACTIVITIES

- **Upliftment of engineering knowledge through research work**
- **Grant-in-Aid scheme for R & D work to be carried out by the students of engineering colleges and universities**
- **Inculcate the culture of research in the budding engineers for nation building**
- **Serve as a technology collaborator and facilitator**
- **Emerge as a 'category leader' especially in the areas of undergraduate R&D funding**
- **Disseminate the outcome of R&D projects through its publications for benefit of engineering profession and the society**

IEI has been recognized as Scientific and Industrial Research Organization (SIRO) by the Ministry of Science & Technology, Govt. of India and besides conducting its own research, provides Grant-in-Aid to UG/PG/ PhD students of Engineering

Institutes & Universities. IEI holds the International Professional Engineers (IntPE) Register for India under the global International Professional Engineers Alliance (IntPEA). The Institution also awards the Professional Engineers (PE) Certification.

#ECI: Engineering Council of India (ECI) is a statutory professional body responsible for regulation and licensing of engineering profession in India. It is under the ownership of Ministry of Science and Technology, Government of India[1] It was established on 4 April 2002 by Government of India to work for the advancement of engineering profession in various disciplines and for enhancing the image of engineers in society, by focusing on the quality and accountability of engineers. The headquarters of ECI is in New Delhi, India. Today there are 44 members, which includes government departments, engineering research units, national apex bodies and provincial apex bodies.

The 17th National Conference of Engineering Council of India (ECI) on the Theme: 'Role of Engineers in achieving Sustainable Development Goals' which was held on November 29, 2019 at New Delhi was very successful and was attended by more than 200 participants.

The Engineering Council of India and its Member Associations greatly appreciates the support provided to this conference by all. It has helped ECI in a great measure in furthering its objectives to strengthen the engineering profession in the country so as to serve better the Indian industry and economic development.

Engineering Council of India celebrated its 18th Foundation Day on 7th April, 2021.

Continuing its tradition, Eminent Engineers' Awards in 2 categories- Industry and Research & Consultancy were also presented on this day. The high level Jury consisting of Dr. Kirit Parikh (Chairman), Dr. R. A. Mashelkar, Mr. B. Muthuraman, Mr. Mahendra Raj and Dr. D. V. Kapur selected: Dr. Tessy Thomas, Director General (Aeronautical Systems), DRDO, in the Research & Consultancy Category and Shri Mukesh Ambani, Chairman and Managing Director, Reliance Industries Ltd., in the Industry Category. The Awards were presented by Shri Suresh Prabhu, Former Cabinet Minister, Government of India.

#IEEE: IEEE Computer Society (sometimes abbreviated the Computer Society or CS) is a professional society of the Institute of Electrical and Electronics Engineers (IEEE). Its purpose and scope is "to advance the theory, practice, and application of computer and information processing science and technology" and the "professional standing of its members".[2] The CS is the

largest of 39 technical societies organized under the IEEE Technical Activities Board.[3]

The IEEE Computer Society sponsors workshops and conferences, publishes a variety of peer-reviewed literature, operates technical committees, and develops IEEE computing standards.[4] It supports more than 200 chapters worldwide[5] and participates in educational activities at all levels of the profession, including distance learning, accreditation of higher education programs in computer science, and professional certification in software engineering.

The IEEE Computer Society traces its origins to the Subcommittee on Large-Scale Computing, established in 1946 by the American Institute of Electrical Engineers (AIEE), and to the Professional Group on Electronic Computers (PGEC), established in 1951 by the Institute of Radio Engineers (IRE). When the AIEE merged with the IRE in 1963 to form the Institute of Electrical and Electronics Engineers (IEEE), these two committees became the IEEE Computer Group.[9] The group established its own constitution and bylaws in 1971 to become the IEEE Computer Society.

The CS maintains its headquarters in Washington, D.C. and additional offices in California, China, and Japan.

The IEEE Computer Society maintains volunteer boards in six program areas: education, membership, professional activities, publications, standards, and technical and conference activities. In addition, 12 standing boards and committees administer activities such as the CS elections and its awards programs to recognize professional excellence.

#CSI: Computer Society of India is a body of computer professionals in India. It was started on 6 March 1965 by a few computer professionals and has now grown to be the national body representing computer professionals. It has 72 chapters across India, 511 student branches, and 100,000 members.[2]

The Computer Society of India is a non-profit professional meet to exchange views and information to learn and share ideas. The wide spectrum of members is committed to the advancement of theory and practice of Computer Engineering and Technology Systems, Science and Engineering, Information Processing and related Arts and Sciences.

The Society also encourages and assists professionals to maintain integrity and competence of the profession and fosters a sense of partnership amongst members. Besides the activities held at the *Chapters and Student Branches*, the Society also conducts periodic conferences, seminars.

Through the initiatives of Professor Rangaswamy Narasimhan the first President, CSI has been in close liaison with International Federation for Information

Processing (IFIP) since its inception in 1965, when observers from India attended the IFIP Council meeting. Since 1974, when CSI became a member of IFIP, CSI has organized many IFIP sponsored events and was host to the 1978 Council meeting in Bombay and 1988 General Assembly in New Delhi. It represents India in technical committees and working groups of IFIP. Prof. Vipin Tyagi, Jaypee University of Engineering and Technology is Hon. Secretary of Computer Society of India.

The Society functions under the guidance of an Executive Committee. The members of this Committee are elected by voting members of the Society. The Functional head of the Society is the President and is assisted by the Vice President, Secretary and Treasurer

CSI started conducting the National Standard Test for Programming Competence in 1975. A Directorate of Education was set up in 1985, and a number of modules, such as Systems Analysis and Design, Data Communication, OS, and DBMS, are covered, in order to ensure a minimum level of professional competence, especially amongst those without a university background.

CSI has an Educational Directorate which undertakes activities related to certification of professionals related to the latest technologies. Its recent initiative of distance education in the Business Domain areas offers technology enabled learning supported by personal counselling & expert advice. The Education Directorate is headed by a full-time academician who along with Chairman of Division V (Education & Research) and the National Student Coordinator collectively provides necessary guidance and directions to the member academic institutions and students community.

The Education Directorate organizes continuing education and professional development programs, It also extends finance assistance to research projects undertaken by faculty and postgraduate students. Student professional development activities have been encouraged through the student branches as well as student-paper contests at the Annual Conventions.

#SAE: SAE International, formerly named the Society of Automotive Engineers, is a United States-based, globally active professional association and standards developing organization for engineering professionals in various industries. SAE International's world headquarters is in Warrendale, Pennsylvania, 20 miles north of Pittsburgh, Pennsylvania. Principal emphasis is placed on global transport industries such as aerospace, automotive, and commercial vehicles. The organization adopted the name SAE International to reflect the broader emphasis on mobility.

SAE International has over 138,000 global members. Membership is granted to individuals, rather than companies. Aside from its standardization efforts, SAE International also devotes resources to projects and programs in STEM education, professional certification, and collegiate design competitions.

For historical legacy reasons, the label "SAE" is commonly used on tools and hardware in North America to indicate United States customary units measurements, that is, inch-based not metric (SI). Both this usage and casual use of the term "Imperial" are loose and imprecise (but common) references to inch fractional sizes and to the screw thread sizes of the Unified Thread Standard (UTS).

SAE is also well known in the United States for its ratings of automobile horsepower. Until 1971-1972 SAE gross power was used. Similar to brake horsepower (bhp), it gave generously unrealistic performance ratings. Since then the more conservative SAE net power, which takes into account engine accessory, emissions, and exhaust drags (but not transmission losses) is the standard.

In the early 1900s there were dozens of automobile manufacturers in the United States, and many more worldwide. Auto manufacturers and parts companies joined trade groups that promoted business. A desire to solve common technical design problems and develop engineering standards was emerging. Engineers in the automobile business expressed a desire to have "free exchange of ideas" to expand their technical knowledge base.

Two magazine publishers, Peter Heldt of *The Horseless Age*, and Horace Swetland of *The Automobile*, were advocates of the concepts for SAE. Heldt wrote an editorial in June 1902 in which he said, "Now there is a noticeable tendency for automobile manufacturers to follow certain accepted lines of construction, technical questions constantly arise which seek a solution from the cooperation of the technical men connected with the industry. These questions could best be dealt with by a technical society. The field of activity for this society would be the purely technical side of automobiles."[1]

Horace Swetland wrote on automotive engineering concerns and became an original SAE officer. About two years after Heldt's editorial, the Society of Automobile Engineers was founded in New York City. Four officers and five managing officers volunteered. In 1905 Andrew L. Riker[2] served as president,[3] and Henry Ford served as the society's first vice president. The initial membership was engineers with annual dues of US$10.

***A World In Motion* is a teacher-administered, industry volunteer-assisted program that brings science, technology, engineering and math (STEM) education to life in the classroom for students in Kindergarten through Grade 12. Benchmarked to the national standards, AWIM incorporates the laws of physics, motion, flight and electronics into age-appropriate hands on activities that reinforce classroom STEM curriculum**.

The *SAE Collegiate Design Series* provides an opportunity for college students to go beyond textbook theory and replicates the process of engineering design and manufacturing. In the CDS program, a company wants to sell a product for a specific market segment, for example a radio controlled airplane, a single seat off-road vehicle, or a single seat Formula style race car.[41] Instead of doing all the design, manufacturing and testing in house, the customer chooses to contract out those processes to a supplier, and sends their requirements out for bid. Student teams act as the suppliers and design, build and test a prototype vehicle that they believe meets the customer's specifications.[41] Each team then presents its prototype to the customer at the annual competitions and is judged on several criteria.[41] The team with the highest points essentially wins the contract.