



Rashtreeya Sikshana Samiti Trust
RV College of Engineering®

(Autonomous Institution)
 Affiliated to Visvesvaraya Technological University, Belagavi)
 Mysuru Road, Bengaluru-560059



In collaboration with
Association of Health Care Providers India (AHPI)

CERTIFICATION PROGRAM IN
“BIOMEDICAL EQUIPMENT MAINTENANCE AND SERVICING
(BEMS)”

About RVCE:

Rashtreeya Vidyalaya College of Engineering (RVCE) established in 1963 is the flagship institution of Rashtreeya Sikshana Samithi Trust (RSST) and one of the earliest self-financing engineering colleges in the country. RVCE today is recognized as one of India's leading technical institutions. It is rated amongst the top five self-financing engineering colleges in the country. Several leading National English magazines have rated the institution as the best institute in the nation amongst self-financing institutions based on Return on Investment by a student. RVCE is spread over 45 acres of sprawling campus with vibrant academic ambience. RVCE is the preferred destination for top ranking aspirants, both for UG and PG programs.

RVCE is an autonomous institution affiliated to Visvesvaraya Technological University (VTU) Belagavi. The curriculum for UG & PG programs are designed by Board of Studies and approved by the Academic Council. The institution offers 12 Bachelors and 19 Post-graduate programs. Fifteen departments are VTU recognized research centers for M.Sc (Engg.) and Ph.D. studies. Eleven UG programs and Ten Postgraduate programs are accredited by National Board of Accreditation (NBA). The institution has students' strength of about 5500 and 200 research scholars. The institution has more than 375 qualified faculty members. The placement in most of the departments is over 95%.

The institution has to its credit over 1200 National and International Journal publications, 41 patents filed, 27 patents published, completed sponsored research and consultancy projects worth 25 crore. The institution has established Incubation Centre, Centre of Excellence in Macro-electronics, Cisco sponsored Centre of Excellence in Internet of Things, RVCE-Mercedes Benz Centre for Automotive Mechatronics, Toyota Kirloskar Motors sponsored automotive workshop and RV-Bosch Rexroth Centre for Automation. The students have won awards and accolades in national and international competitions.

Professional Practices	Writing Skills: Official Letters, Curriculum Vitae, MS Office	Communication, Leadership and Team work	Biomedical Instrumentation & Imaging Techniques	Hydraulic pumps, Pressure control and flow control valves	Measurement & Display Devices	Fundamentals of Electronics	Elements of Electrical Technology
Problem solving, working under pressure and time management	Blood Flow Meters, Cardiac Pacemakers, Defibrillators and Ventilators	Electrocardiograph and Electroencephalograph: Working and computerized Analysis	Direction Control valve, Hydraulic actuators and Accumulators	Transducers- Types, working and characteristics	Diode as a Rectifier	Overview on Electricity, Circuit Fundamentals Different types and properties of Types of Capacitors	Concept of coupling, Inductors and types of cores
Equipment maintenance overview	Clinical Laboratory Instruments, Blood gas Analyzers and Blood cell counters	Troubleshooting of Hydraulic & Pneumatic Circuits	Pneumatic Control Valves & Actuators	Display Devices: LCD, LED, Electroluminescent display and plasma display	Amplifier circuits and applications	Connectors, switches and Relays	Transformers, Motors and Power Supplies
Human Machine Systems. Contribution of ergonomics to work station design.	X-ray radiography, Mammography, Digital subtraction angiography, CT scanners, Ultrasound	Design and Analysis of Hydraulic & Pneumatic Circuits	Function Generator, Impedance Bridges, Q Meter and Recorders	Cathode Ray Oscilloscope and Measurement meters	Filter circuits, wave shaping circuits and voltage multipliers	Digital Electronics and linear ICs	

About the Course

Medical devices in particular are crucial in the prevention, diagnosis, and treatment of illness and disease, as well as patient rehabilitation. The World Health Assembly adopted resolution, which covers issues arising from the in-appropriate deployment and use of health technologies, and the need to establish priorities in the selection and management of health technologies, specifically medical devices. The challenges faced by hospitals and technicians are imposed by the proliferation of medical equipment technology, their growing cost and complexity, device related patient harm and a profusion of conflicting information about medical equipment.

These challenges are faced by health professionals as well, but it is the service engineer or technician who is usually called upon to sort out these issues and make sense of them. To do so requires skill upgrading, access to reliable, up-to date technical information and the ability to consult with competent peers with specialized experience and judgment. With these in mind, RV College of Engineering has a total focused approach with the specific objectives to rapidly up-skill participants in the advanced technology management, operation, maintenance and repair techniques of medical equipment through interactive learning and hands on practice.



Course Structure:

The training modules are on various topics related to basics of biomedical engineering. The curriculum is designed in such a way to impart the following concepts to the participants:

- ✦ Assembling and Testing of components
- ✦ Trouble shooting
- ✦ Preventive maintenance
- ✦ Servicing
- ✦ Calibration

Eligibility: B.E. in Electrical and allied branches of Engineering

Duration: 6 months (3 months Coursework +3 months Internship)

