

HEA

POLYTECHNIC

(Affiliated to DTE, Govt. of Karnataka & Approved by AICTE, Govt. of India)

36 YEARS OF EXCELLENCE IN IMPARTING QUALITY EDUCATION



**Aeronautical
Engineering**



**Automobile
Engineering**



**Mechanical
Engineering**



**Computer
Science
Engineering**



HEA Polytechnic, offering full-time Diploma courses, was established in the year 1986. Since its inception, our focus has been to prepare students for the new age and advances in technology. Our teaching staff are well-trained and have the track record of educating some of the best in the industry today.

Course Structure

All the Diploma courses at HEA are under the Directorate of Technical Education, Govt. of Karnataka and are approved by the All India Council for Technical Education (AICTE), Govt. of India. The examinations are conducted by the Board of Technical Examination, Govt. of Karnataka. On successful completion of these 3-year Diploma courses, students will become eligible for admission into the 2nd year of Graduate Engineering courses conducted by approved universities.

At HEA, we prepare the students through 3years/6 semester Diploma courses in:

- Aeronautical Engineering
- Automobile Engineering
- Mechanical Engineering
- Computer Science Engineering

Eligibility:

Minimum qualification for admission is a pass in 10th std/Equivalent examinations with 35% marks in Science and Mathematics. Students having qualification other than Karnataka State Board have to apply for Eligibility certificate from the Director of Technical Education (D.T.E), Government of Karnataka, Bengaluru. Students belonging to SC/ST categories should produce original documents as proof, as per Government of Karnataka notifications issued from time to time, and 5 years study certificate with B.E.O signature. All students have to submit Physical fitness certificate at the time of admission.

Students seeking admission for Automobile Engineering should have completed 16 years of age as on 1st June of the academic year.

Highlights

- Students who have completed the diploma course are offered positions in Software/ Electronics & Communication/ Automobile / Mechanical Fields as Junior Engineers
- There is a lot of demand for Diploma holders in various engineering organisations
- They can also pursue higher studies and get one year exemption in B.E. / B.Tech course



Diploma in Aeronautical Engineering

The course deals with the development of new technology in the field of Aeronautics and Aerospace. It is your first stepping stone into the field of Aeronautics and Aerospace and covers all major modules in the field of design, construction, development, testing, operation and maintenance of all types of aircraft such as commercial, military, space-crafts and their components. Diploma in Aeronautical Engineering provides you the hands-on skills and academic knowledge to become employable after the 3 years (6 semesters) course or enables you to go ahead for further studies with much ease.

In addition to the Diploma course, the Academy also takes pride in providing students English and good communication skills that transforms them into well-mannered, disciplined and smart students, which helps them to keep up with current global demands.

SYLLABUS
Aeronautical Engineering

Sl. No.	SEMESTER-I Subjects	Theory Exam	Practical Exam
1	Engineering Mathematics - I	✓	✗
2	Elements Of Aeronautics	✓	✗
3	Communication Skills	✗	✓
4	Computer Aided Engineering Drawing	✗	✓
5	Audit Course - Environment Sustainability (Internal Exam Only)		
Sl. No.	SEMESTER-II Subjects	Theory Exam	Practical Exam
1	Project Management Skills	✓	✗
2	Statistics And Analytics	✗	✓
3	Fundamentals Of Electrical & Electronics Engineering	✗	✓
4	IT Skills	✗	✓
5	Mechanical Workshop Practice	✗	✓
6	Audit Course - Kannada (Internal Exam Only)		
Sl. No.	SEMESTER-III Subjects	Theory Exam	Practical Exam
1	Fluid Mechanics & Pneumatics	✗	✓
2	Thermodynamics	✗	✓
3	Low Speed Aerodynamics	✗	✓
4	Aircraft Material And Manufacturing Technology	✗	✓
5	Audit Course - Kannada (Internal Exam Only)		

Sl. No.	SEMESTER-IV Subjects	Theory Exam	Practical Exam
1	Aircraft Propulsion System	✗	✓
2	Aircraft Electrical Avionics System	✗	✓
3	Aircraft System and Aircraft Instruments	✗	✓
4	Aircraft Structure and S O M	✗	✓
5	Audit Course - Constitution of India (Internal Exam Only)		
Sl. No.	SEMESTER-V Subjects	Theory Exam	Practical Exam
1	Aircraft Piston Engine Theory	✓	✗
2	Aircraft Maintenance Management	✓	✗
3	Aircraft Electrical System	✓	✗
4	Elective Theory - I (Select Any One - A or B)		
		✓	✗
	A. Flight Safety	✓	✗
	B. Rockets and Satellites	✓	✗
5	Aircraft Piston Engine Lab	✗	✓
6	Professional Practice	✗	✓
7	Project Work - I		
Sl. No.	SEMESTER-VI Subjects	Theory Exam	Practical Exam
1	Aircraft Jet Engine Theory	✓	✗
2	Avionics & Aircraft Radio System	✓	✗
3	Helicopter Basics	✓	✗
4	Elective Theory - I (Select Any One - A or B)		
		✓	✗
	A. Aircraft Inspections & Repair	✓	✗
	B. Civil Aircraft Regulations	✓	✗
5	Aircraft Jet Engine Lab	✗	✓
6	Professional Practices	✗	✓
7	Project Work - II	✗	✗
8	Industrial Visit / In-Plant Training		





Diploma in Mechanical Engineering

Mechanical Engineering finds applications in all fields of technology. Mechanical Engineers can work in many industries including private or public sector industries of various types, and their work varies by industry and function. With the rapid rate of expansion in the industrial sector, the employment potential for Mechanical Engineers is very high. These engineers are required in automobile, chemical, electronics, steel plants, oil exploration and refining, technical wings of armed forces, space research organization, etc.

SYLLABUS
Mechanical Engineering

Sl. No.	SEMESTER-I Subjects	Theory Exam	Practical Exam
1	Engineering Mathematics	✓	✗
2	Materials For Engineering	✓	✗
3	Communication Skills	✗	✓
4	Computer Aided Engineering Drawing	✗	✓
5	Audit Course - Environment Sustainability (Internal Exam Only)		
Sl. No.	SEMESTER-II Subjects	Theory Exam	Practical Exam
1	Project Management Skills	✓	✗
2	Statistics & Analytics	✗	✓
3	Fundamentals of Electrical & Electronics Engineering	✗	✓
4	IT Skills	✗	✗
5	Mechanical Workshop Practice -I	✗	✓
6	Audit Course - Kannada (Internal Exam Only)		
Sl. No.	SEMESTER-III Subjects	Theory Exam	Practical Exam
1	Mechanical Materials	✗	✓
2	Machine Tool Technology	✗	✓
3	Manufacturing Process	✗	✓
4	Fluid Power Engineering	✗	✓
5	Audit Course - Kannada (Internal Exam Only)		

Sl. No.	SEMESTER-IV Subjects	Theory Exam	Practical Exam
1	Operation Management	✗	✓
2	CNC Programming & Machining	✗	✓
3	Product Design & Development	✗	✓
4	Elements of Industrial Automations	✗	✓
5	Audit Course - Constitution of India (Internal Exam Only)		
Sl. No.	SEMESTER-V Subjects	Theory Exam	Practical Exam
1	Industrial Management	✓	✗
2	Applied Thermal Engineering	✓	✗
3	Machine Design	✓	✗
4	Mechatronics	✓	✗
5	Professional Practices	✗	✓
6	Thermal Engineering Lab	✗	✓
7	Mechatronics Lab	✗	✓
8	Project Work - I		
Sl. No.	SEMESTER-VI Subjects	Theory Exam	Practical Exam
1	Estimation & Costing	✓	✗
2	Computer Integrated Manufacturing	✓	✗
3	Elective Theory - (Select Any One From A,B,C,D)		
	A. Automobile Engineering	✓	✗
	B. Power Plant Engineering	✓	✗
	C. Renewable Energy Resources	✓	✗
	D. Refrigeration & Air Conditioning	✓	✗
4	CNC Lab	✗	✓
5	Computer Aided Analysis & Simulation Lab	✗	✓
6	Project Work - II (Continuation From Sem V)	✗	✗
7	In-Plant Training		

Diploma in Automobile Engineering

The course deals with the design, development, maintenance, and all other aspects of Automobiles, Automobile accessories, spares, etc. It includes the study of the performance, durability and aesthetics of vehicles and design of new models. The automotive industry is a fast-track industry and is one of today's most exciting, high-technology global businesses. The work done is a balance of engineering and commercial activities, as technical solutions must be efficient, economical and contribute to the profitability of the employer. Tasks typically involve:

- Devising and organizing tests, which will answer questions from clients, consumers and other engineers involved in vehicle development
- Anticipating vehicle or component behaviour in different conditions with computer modeling software
- Ensuring any parts can be sourced when large-scale vehicle assembly commences
- Supervising technical staff, engineers or designers (dependent on specific role)
- Operating in cross-functional or internationally based teams to design experiments in order to test the validity and competence of new technology

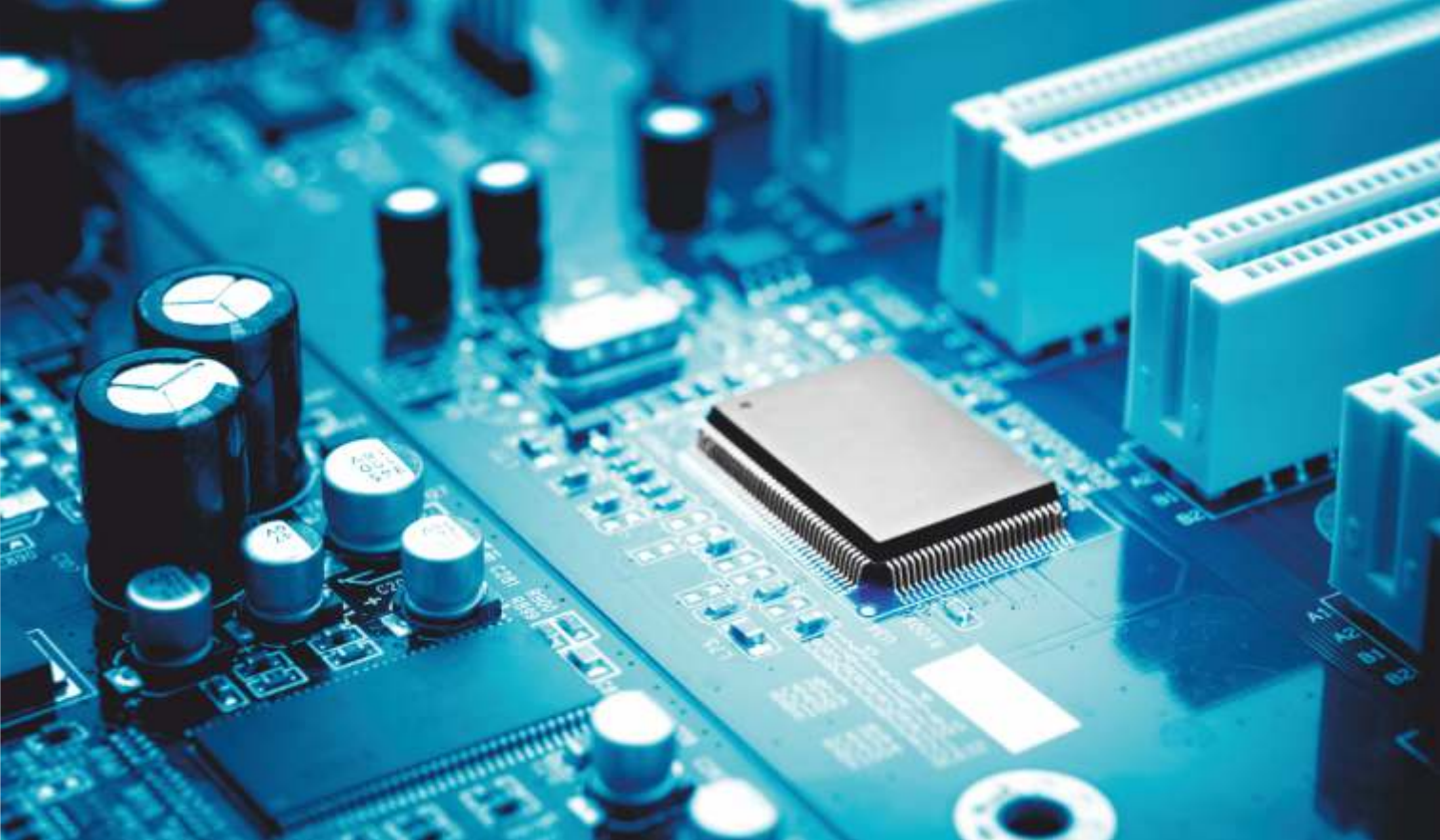
SYLLABUS
Automobile Engineering

Sl. No.	Semester-I Subjects	Theory Exam	Practical Exam
1	Engineering Mathematics	✓	✗
2	Mechanical Science & Engineering	✓	✗
3	Communication Skills	✗	✓
4	Computer Aided Engineering Drawing	✗	✓
5	Audit Course - Environment Sustainability (Internal Exam Only)		
Sl. No.	Semester-II Subjects	Theory Exam	Practical Exam
1	Project Management Skills	✓	✗
2	Statistics & Analytics	✗	✓
3	Fundamentals of Electrical & Electronics Engineering	✗	✓
4	IT Skills	✗	✓
5	Automotive Engines	✗	✓
6	Audit Course - Kannada (internal Exam Only)		
Sl. No.	Semester-III Subjects	Theory Exam	Practical Exam
1	Automobile Chasis & Transmission System	✗	✓
2	Automotive Electrical System	✗	✓
3	Thermal Engineering & Engine Testing	✗	✓
4	Automotive Manufacturing Processes	✗	✓
5	Audit Course - Kannada (Internal Exam Only)		

Sl. No.	SEMESTER-IV Subjects	Theory Exam	Practical Exam
1	Advanced Automative System	✗	✓
2	Design & Drafting	✗	✓
3	Verticle Body Engineering & Dynamics	✗	✓
4	Fuels & Pollution Controls	✗	✓
5	Audit Course - Constitution of India (Internal Exam Only)		
Sl. No.	SEMESTER-V Subjects	Theory Exam	Practical Exam
1	Transport & Industrial Management	✓	✗
2	Advance Automotive Systems	✓	✗
3	Design of Machine Elements	✓	✗
4	Elective Theory - (select any one from A,B,C)		
	A. Farm Traders and Construction Equipment	✓	✗
	B. Energy Resources & Alternative Fuels	✓	✗
	C. Vehicle Body Engineering	✓	✗
5	Parametric Modelling Lab	✗	✓
6	Advance Automotive Systems Lab	✗	✓
7	Professional Practice Lab	✗	✓
8	Project Work-1		
Sl. No.	SEMESTER-VI Subjects	Theory Exam	Practical Exam
1	Automotive Mechanics	✓	✗
2	Automotive Electronics	✓	✗
3	Engine Maintenance & Estimation	✓	✗
4	Engine Testing Lab	✗	✓
5	Engine Reconditioning Lab	✗	✓
6	Project Work		
7	In Plant Training		

★ HEA has signed an MoU with Volkswagen India Group and set up a state-of-the-art workshop and classroom facility in the campus. All 20 students in VG-TAP (Volkswagen Group Technical Education Program) (Audi specific) will be trained and declared "Certified by Volkswagen", and have the opportunity to avail of employment at various Volkswagen Group owned facilities across the country and the globe. Volkswagen group represents 12 brands; Audi, Skoda, Volkswagen passenger vehicles, Porsche, Lamborghini, Bentley, Bugatti, SEAT, Scania, MAN, Ducati and Volkswagen commercial vehicles.





Diploma in Computer Science and Engineering

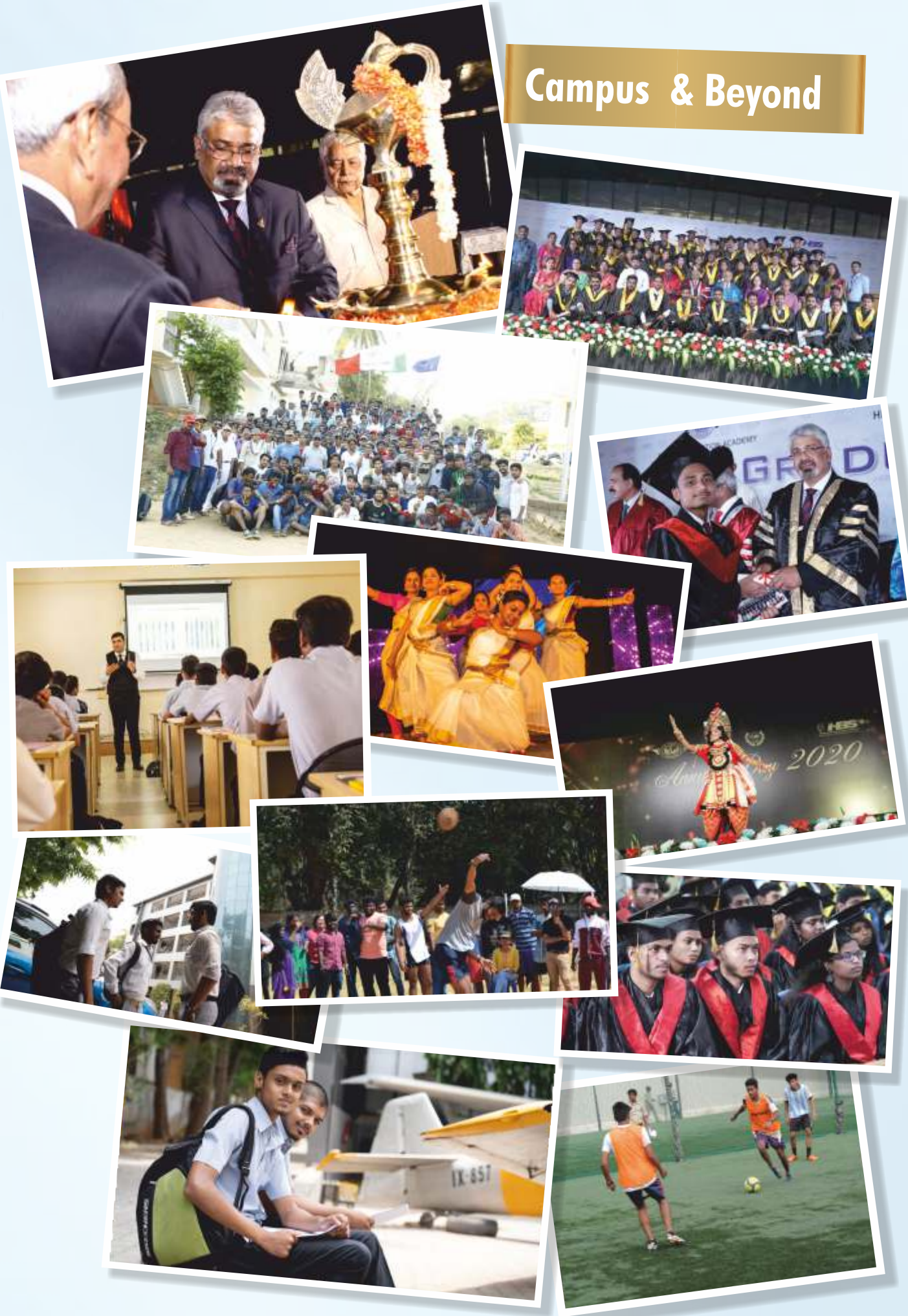
This course, Diploma in Computer Science and Engineering is your stepping stone to a flying career in IT. It covers both software and hardware programming and design. You will be specialising in high-end and new age applications. The growth of worldwide networks has brought Information Technology (IT) to our homes, offices and even our modes of transport. Its extensive use has led to an increase in the number of IT careers available to professionals.

SYLLABUS
Computer Science & Engineering

Sl. No.	SEMESTER-I Subjects	Theory Exam	Practical Exam
1	Engineering Mathematics	✓	✗
2	Fundamentals of Computer	✓	✗
3	Fundamentals of Electrical & Electronics Engineering	✗	✓
4	IT Skills	✗	✓
5	Audit Course - Environment Sustainability (Internal Exam Only)		
Sl. No.	SEMESTER-II Subjects	Theory Exam	Practical Exam
1	Project Management Skills	✓	✗
2	Statistics & Analytics	✗	✓
3	Communication Skills	✗	✓
4	Computer Aided Engineering Graphics	✗	✓
5	Multimedia & Animation	✗	✓
6	Audit Course - Kannada (Internal Exam Only)		
Sl. No.	SEMESTER-III Subjects	Theory Exam	Practical Exam
1	Python Programming	✗	✓
2	Computer Hardware Maintenance & Administration	✗	✓
3	Computer Networks	✗	✓
4	Database System Concepts & PL/SQL	✗	✓
5	Audit Course - Kannada (Internal Exam Only)		

Sl. No.	SEMESTER-IV Subjects	Theory Exam	Practical Exam
1	Data Structure with Python	✗	✓
2	Operating System & Administration	✗	✓
3	Object Oriented Programming & Design with Java	✗	✓
4	Software Engineering Principles & Practices	✗	✓
5	Audit Course - Constitution of India (Internal Exam Only)		
Sl. No.	SEMESTER-V Subjects	Theory Exam	Practical Exam
1	Software Engineering	✓	✗
2	Web Programming	✓	✗
3	Design & Analysis of Algorithms	✓	✗
4	Green Computing	✓	✗
5	Web Programming Lab	✗	✓
6	Design & Analysis of Algorithms	✗	✓
7	Professional Practice Lab	✗	✓
8	Project Work - I		
Sl. No.	SEMESTER-VI Subjects	Theory Exam	Practical Exam
1	Software Testing	✓	✗
2	Network Security & Management	✓	✗
3	Elective Theory - (Select Any One From A,B,C,D)	✓	✗
		✓	✗
		✓	✗
		✓	✗
4	Software Testing Lab	✗	✓
5	Network Security Lab	✗	✓
6	In Plant Training	✗	✗
7	Project Work - II		

Campus & Beyond



Companies that have recruited our students:-



Lathe Machines



Machine shop



Campus



Fluid Mechanics



Automobile Workshop



TIG Welding

For admissions, contact:



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