B.V.V. S

BASAVESHWARENGINEERINGCOLLEGE, BAGALKOTE

Department of Information Science and Engineering

UG SCHEME OF TEACHING AND EXAMINATION

(Admitted from 2025-2026 onwards)

[Applicable to students admitted in AY 2025-26 to 1st semester and through lateral entry in AY 2026-27 to 3rd semester]

VISION

To be a premier Centre in Information Science and Engineering distinguished by excellence in education, research, and innovation for sustainable future.

MISSION

- **Impart quality engineering education to cultivate ethical, moral and entrepreneurial qualities.**
- **Carry out interdisciplinary research to fulfill the societal needs.**
- **Create exemplary young professionals for a sustainable future.**

Programme Specific Outcomes (PSOs)

PSO1: Apply programming paradigms, modern tools, and ethical practices to develop sustainable Software Systems.

PSO2: Adopt computing and communication models along with data engineering techniques to develop secured intelligent Information Systems.

Programme Educational Objectives (PEO's)

PEO -1: To provide students with strong foundation in mathematics, science and engineering fundamentals

PEO -2: To provide exposure to emerging cutting edge information and communication technologies for achieving excellence in global IT industry.

PEO -3: To equip students with the spirit of innovation to carry research type projects to fulfill the changing needs of the society

PEO -4: To inculcate team work, leadership qualities and entrepreneurial and communication skills among students.

PEO -5: To motivate & nurture the students to pursue higher education, involve in lifelong learning, be socially responsible and morally upright IT professionals.

Programme Outcomes (POs)

PO-1: **Engineering Knowledge:** Apply knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO-2: **Problem Analysis:** Identify, formulate, research literature, and analyze complex engineering problems to arrive at substantiated conclusions using first principles of mathematics, natural, and engineering sciences.

PO-3: **Design and Development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet specified needs with appropriate consideration for public health, safety, and societal and environmental aspects.

PO-4: **Conduct of Investigation:** Use research-based knowledge and research methods, including design of experiments, analysis and interpretation of data, and synthesis of information, to provide valid conclusions for complex engineering problems

PO-5: **Modern Tool Usage:** Create, select, and apply appropriate modern tools, software, and techniques, including those related to the modern engineering discipline of their choice, to model and simulate complex engineering activities with an understanding of the limitations.

PO-6: **The Engineer and Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO-7: **Environment and Sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for, sustainable development.

PO-8: **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice

PO-9: **Individual and Teamwork:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO-10: **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO-11: **Project Management and Finance:** Demonstrate knowledge and understanding of engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

B.E. in Information Science and Engineering

Proposed Curriculum Framework for B.E. Program

[For to students admitted in AY 2025-26 to 1st semester and through lateral entry in AY 2026-27 to 3rd semester]

Sl. No.	Category	VTU	AICTE	BEC Present	BEC Revised
1.	**HSMC:** HSS (English:1,Kannada:1,UHV:1,EV:1),HRM:3 (Offered by Dept)=7 **AEC** (Innovation and Design Thinking Lab:1,Interdisciplinary Project-Based Learning:1,SS:2,IKS:1, MOOCS:3) = 08	14+8=22	15	9+10=19	7+8=15
2.	**BSC:** Basic Science Courses(Physics, Chemistry and Mathematics, Biology for Engineers)	22	23	22	22
3.	**ESC/ETC:** Engineering Science Courses (Basic Elect. /Electronics/Computer/Mechanics/Workshop/Drawing, etc.)	18	17	18	16
4.	**PCC:** Professional Core Courses	57	61	56	65
5.	**PEC:** Professional Elective Courses relevant to the branch with at least one course either fully or partially supported by industry	12	12	12	12
6.	**OEC:** Open Electives Courses/Subjects from other Technical/Arts/Commerce(3MOOCS+6)	9	12	09	09
7.	**Mini(2) and Major projects(9)/Industrial Internships (10)**	20	20	24	21
8.	**Mandatory Course:** PE, Yoga, NSS, Constitution, Bridge course Maths 1and 2 (lateral Entry)	00	00	00	00
	Total	**160**	**160**	**160**	**160**

B.E. in Information Science and Engineering

Suggestive Break-up of Credits for B.E (Common to all Branches)

[For the Students admitted to first year from 2025-2026 onwards and to 2nd year lateral entry from 2026-2027 onwards]

Sem.	BSC	ESC/ETC	HSMC	AEC	PCC	PEC	OEC	Project	Internship	Total
1.	08	06	01	1(IBPL/IDT)	04	--	--	--	--	**20**
2.	08	10	01	1(IBPL/IDT)	--	--	--	--	--	**20**
3.	03	--	--	--	17	--	--	--	--	**20**
4.	03	--	01	--	16	--	--	--	--	**20**
5.	--	--	01	2(SS)	09	03	03	02	--	**20**
6.	--	--	--	1(IKS)	13	03	03	--	--	**20**
7.	--	--	03	--	06	06	--	09	--	**24**
8.	--	--	--	3(MOOCS)	--	--	3 (MOOCS)	--	10	**16**
Total	**22**	**16**	**07**	**08**	**65**	**12**	**09**	**11**	**10**	**160**

Note:

- **VII and VIII semester to be swapped.**
- **The number of credits can be swapped between Project and Internship based on BoS recommendation.**
- **MOOCS (6 credits) and Mandatory courses to be completed prior to commencement of VII semester and the same will be reflected along with Internship in 8th semester.**

B.E. in Information Science and Engineering

Scheme of Teaching and Examinations

[Applicable to students admitted in AY 2025-26 to 1st Semester and through lateral entry in AY 2026-27 to 3rd Semester]

I SEMESTER														
Sl. No.	Course Category	Course Code	Course Title	(Hrs Teaching-Learning Scheme				Examination Duration (Hrs/Sem.)		Total Hours	Examination Scheme and Evaluation			Credits(C)= Total Hours/30
				L Hrs/Week /Sem.)	T Hrs/Week (Hrs/Sem.)	P Hrs/Week (Hrs/Sem.)	Term Work (TW) & Self Learning(SL), (TW+SL) Hrs/Sem.	CIE	SEE		CIE Marks	SEE Marks	Total Marks	
01	**ASC**	1BMAS101C	Calculus and Linear Algebra: CSE Stream	42	0	26	44	5	3	120	50	50	100	**04**
02	**ASC(IC)**	1BPHS102C	Quantum Physics and Applications (CSE stream)	42	0	26	44	5	3	120	50	50	100	**04**
04	**ESC**	1BMES103C	Computer-Aided Engineering Drawing for	28	0	26	28	5	3	90	50	50	100	**03**
05	**ESC -I**	1BECA104N	Introduction to Electronics & Communication Engineering	42	0	0	42	3	3	90	50	50	100	**03**
06	**PCC**	1BCSA105C	Programming in C	42	0	0	42	3	3	90	50	50	100	**03**
07	**AEC**	1BHSA106M	Soft Skill	14	0	0	13	2	1	30	50	50	100	**00**
08	**HSMC**	1BHSA107C	Samskrutika Kannada/ Balake Kannada	14	0	0	13	2	1	30	50	50	100	**01**
09	**AEC**	1BISA108C	Innovation and Design Thinking Lab (Project Based Learning)	0	0	26	--	2	2	30	50	50	100	**01**
10	**PCC**	1BCSA109L	C Programming Lab	0	0	26	--	2	2	30	50	50	100	**01**
11		**AAP**	**AICTE Activity Points**	**100 activity points Mandatory for the award of Degree**										
			Total	**224**	**0**	**130**	**226**	**29**	**21**	**630**	**450**	**450**	**900**	**20**

B.E. in Information Science and Engineering

Scheme of Teaching and Examinations

[Applicable to students admitted in AY 2025-26 to 1st Semester and through lateral entry in AY 2026-27 to 3rd Semester]

II SEMESTER														
Sl. No.	Course Category	Course Code	Course Title	(Hrs Teaching-Learning Scheme				Examination Duration (Hrs/Sem.)		Total Hours	Examination Scheme and Evaluation			Credits(C)= Total Hours/30
				L Hrs/Week /Sem.)	T Hrs/Week (Hrs/Sem.)	P Hrs/Week (Hrs/Sem.)	Term Work (TW) & Self Learning(SL), (TW+SL) Hrs/Sem.	CIE	SEE		CIE Marks	SEE Marks	Total Marks	
1	**ASC**	1BMAS201C	Differential Equations and Numerical Methods	42	0	26	44	5	3	120	50	50	100	**4**
2	**ASC(IC)**	1BCHS202C	Applied Chemistry for CSE Stream(Stream Specific)	42	0	26	44	5	3	120	50	50	100	**4**
3	**ETC**	1BAIA203C	Introduction to AI and Applications	28	28	0	28	3	3	90	50	50	100	**3**
4	**ESC**	1BEEA204N	Introduction to Electrical Engineering	42	0	0	42	3	3	90	50	50	100	**3**
5	**PLC(IC)**	1BCSB205D	Python Programming	42	0	26	44	5	3	120	50	50	100	**4**
6	**AEC**	1BHSB206C	Communication Skills	14	0	0	13	2	1	30	50	50	100	**1**
7	**AEC (NCMC)**	1BHSC207M	Indian Constitution & Engineering Ethics	14	0	0	13	2	1	30	50	50	100	**0**
8	**AEC/SDC**	1BISA208P	Interdisciplinary Project-Based Learning	14	0	0	13	2	1	30	50	50	100	**1**
9		**AAP**	**AICTE Activity Points**	**100 activity points Mandatory for the award of Degree**										
			Total	**238**	**28**	**78**	**241**	**27**	**18**	**630**	**400**	**400**	**800**	**20**

B.E. in Information Science and Engineering

Scheme of Teaching and Examinations

[Applicable to students admitted in AY 2025-26 to 1st Semester and through lateral entry in AY 2026-27 to 3rd Semester]

III SEMESTER														
Sl. No.	Course Category	Course Code	Course Title	(Hrs Teaching-Learning Scheme				Examination Duration (Hrs/Sem.)		Total Hours	Examination Scheme and Evaluation			Credits (C)=Total Hours/30
				L Hrs/Week /Sem.)	T Hrs/Week (Hrs/Sem.)	P Hrs/Week (Hrs/Sem.)	Term Work (TW) & Self Learning(SL), (TW+SL) Hrs/Sem.	CIE	SEE		CIE Marks	SEE Marks	Total Marks	
01	**BSC**	1BMAS301C	Mathematics for Computer Science Stream	42	0	0	42	3	3	90	50	50	100	**3**
02	**PCC**	1BISA302C	Digital Design and Computer Organization	56	0	0	58	3	3	120	50	50	100	**4**
03	**IPCC**	1BISA303C	Operating Systems (Integrated)	42	0	26	44	5	3	120	50	50	100	**4**
04	**PCC**	1BISA304C	Data Structures and Applications	42	0	0	42	3	3	90	50	50	100	**3**
05	**PCCL**	1BISA381L	Data Structures and Applications Lab using C	14	0	0	13	2	1	30	50	50	100	**1**
06	**PCC**	1BISA305C	Object Oriented Programming with Java	42	0	0	42	3	3	90	50	50	100	**3**
07	**PCCL**	1BISA382L	OOP with Java Lab	0	0	26	13	2	1	30	50	50	100	**1**
08	**PCCL**	1BISA383L	Project Management with GIT	0	0	14	13	2	1	30	50	50	100	**1**
09	**MC**	1BHSC360M	National Service Scheme	0	0	0	2	2	100		100	0	100	**0**
		1BHSB360M	Physical Education (Sports and Athletics)											
		1BHSA360M	Yoga											
10		**AAP**	**AICTE Activity Points**	**100 activity points Mandatory for the award of Degree**										
			Total	**238**	**0**	**66**	**269**	**25**	**118**	**0**	**500**	**400**	**900**	**20**

B.E. in Information Science and Engineering

Scheme of Teaching and Examinations

[Applicable to students admitted in AY 2025-26 to 1st Semester and through lateral entry in AY 2026-27 to 3rd Semester]

IV SEMESTER														
Sl. No.	Course Category	Course Code	Course Title	(Hrs Teaching-Learning Scheme				Examination Duration (Hrs/Sem.)		Total Hours	Examination Scheme and Evaluation			Credits (C)=Total Hours/30
				L Hrs/Week /Sem.)	T Hrs/Week (Hrs/Sem.)	P Hrs/Week (Hrs/Sem.)	Term Work (TW) & Self Learning(SL), (TW+SL) Hrs/Sem.	CIE	SEE		CIE Marks	SEE Marks	Total Marks	
01	**IPCC**	1BISA401C	Web Programming(Integrated)	28	0	26	28	5	3	90	50	50	100	**3**
02	**IPCC**	1BISA402C	Design & Analysis of Algorithms using Java	42	0	26	44	5	3	120	50	50	100	**4**
03	**PCC**	1BISA403C	Machine Learning	42	0	0	42	3	3	90	50	50	100	**3**
04	**PCC**	1BISA404C	Discrete Mathematical Structure	42	0	0	42	3	3	90	50	50	100	**3**
05	**PCC**	1BISA406C	Theory of Computations	42	0	0	42	3	3	90	50	50	100	**3**
06	**BSC**	1BBT405C	Biology for Computer Engineers	42	0	0	42	3	3	90	50	50	100	**3**
07	**HSMC**	1BHSA424C	Universal Human Values	14	0	0	13	2	1	30	50	50	100	**1**
08		1BHSB460M	Physical Education (Sports and Athletics)	0	0	0	2	0	0	0	0	0	0	**0**
		1BHSA460M	Yoga											
09		**AAP**	**AICTE Activity Points**	**100 activity points Mandatory for the award of Degree**										
			Total	**252**	**0**	**52**	**255**	**24**	**19**	**600**	**350**	**350**	**700**	**20**

B.E. in Information Science and Engineering

Scheme of Teaching and Examinations

[Applicable to students admitted in AY 2025-26 to 1st Semester and through lateral entry in AY 2026-27 to 3rd Semester]

V SEMESTER														
Sl. No.	Course Category	Course Code	Course Title	(Hrs Teaching-Learning Scheme				Examination Duration (Hrs/Sem.)		Total Hours	Examination Scheme and Evaluation			Credits (C)=Total Hours/30
				L Hrs/Week /Sem.)	T Hrs/Week (Hrs/Sem.)	P Hrs/Week (Hrs/Sem.)	Term Work (TW) & Self Learning(SL), (TW+SL)	CIE	SEE		CIE Marks	SEE Marks	Total Marks	
01	**PCC**	1BISA501C	Software Engineering and Project Management	42	0	0	42	3	3	90	50	50	100	**3**
02	**PCC**	1BISA502C	Database Management Systems	42	0	0	42	3	3	90	50	50	100	**3**
03	**PEC**	1BISAXXE	Professional Elective Course– I	42	0	0	42	3	3	90	50	50	100	**3**
04	**OEC**	1BISAXXN	Open Elective Course- I	42	0	0	42	3	3	90	50	50	100	**3**
05	**HSMC**	1BBT523C	Environmental Studies	14	0	0	13	2	1	30	50	50	100	**1**
06	**AEC**	1BHSA522C	Soft Skill	28	0	0	26	3	3	60	50	50	100	**2**
07	**PCCL**	1BISA5XXL	Project Management Lab.	0	0	39	0	3	3	45	50	50	100	**1.5**
08	**PCCL**	1BISA5XXL	Database Management System Lab.	0	0	39	0	3	3	45	50	50	100	**1.5**
09	**PROJ.**	1BISA5XXP	Mini Project	0	0	52	2	3	3	60	50	50	100	**2**
08	**MC**	1BHSC560M	National Service Scheme	0	0	2	0	0	0	0	0	0	0	**0**
		1BHSB560M	Physical Education(Sports and Athletics)											
		1BHSA560M	Yoga											
09		**AAP**	**AICTE Activity Points**	**100 activity points Mandatory for the award of Degree**										
			Total	**210**	**0**	**132**	**209**	**26**	**25**	**600**	**450**	**450**	**900**	**20**

B.E. in Information Science and Engineering

Scheme of Teaching and Examinations

[Applicable to students admitted in AY 2025-26 to 1st Semester and through lateral entry in AY 2026-27 to 3rd Semester]

VI SEMESTER														
Sl. No.	Course Category	Course Code	Course Title	(Hrs Teaching-Learning Scheme				Examination Duration (Hrs/Sem.)		Total Hours	Examination Scheme and Evaluation			Credits (C)=Total Hours/30
				L Hrs/Week /Sem.)	T Hrs/Week (Hrs/Sem.)	P Hrs/Week (Hrs/Sem.)	Term Work (TW) & Self Learning(SL), (TW+SL) Hrs/Sem.	CIE	SEE		CIE Marks	SEE Marks	Total Marks	
01	**PCC**	1BISA6XC	Big Data Analytics	42	0	0	42	3	3	90	50	50	100	**3**
02	**PCC**	1BISA6XC	Computer Networks	42	0	0	42	3	3	90	50	50	100	**3**
03	**IPCC**	1BISA6XC	Full Stack Development	42	0	26	44	5	3	120	50	50	100	**4**
04	**PCCL**	1BISA6XC	Big Data Analysis Lab	0	0	39	--	3	3	45	50	50	100	**1.5**
05	**PCCL**	1BISA6XC	Computer Networks Lab	0	0	39	--	3	3	45	50	50	100	**1.5**
06	**AEC**	1BUHSXC	Indian Knowledge Systems	14	0	0	13	2	1	30	50	50	100	**1**
07	**PEC**	1BISA6XE	Professional Elective Course-II	42	0	0	42	3	3	90	50	50	100	**3**
08	**OEC**	1BISA6XN	Open Elective Course- II	42	0	0	42	3	3	90	50	50	100	**3**
09	**PROJ.**	--	Pre-Project Work	0	0	0	0	0	0	0	0	0	0	**0**
10	**MC**	1BHSC660M	National Service Scheme	0	0	2	0	0	0	0	0	0	0	**0**
		1BHSB660M	Physical Education (Sports and Athletics)											
		1BHSA660M	Yoga											
11		**AAP**	**AICTE Activity Points**	**100 activity points Mandatory for the award of Degree**										
Total				**224**	**0**	**106**	**97**	**25**	**22**	**600**	**400**	**400**	**800**	**20**

B.E. in Information Science and Engineering

Scheme of Teaching and Examinations

[Applicable to students admitted in AY 2025-26 to 1st Semester and through lateral entry in AY 2026-27 to 3rd Semester]

VII SEMESTER														
Sl. No.	**Course Category**	**Course Code**	**Course Title**	**(Hrs Teaching-Learning Scheme**				**Examination Duration (Hrs/Sem.)**		**Total Hours**	**Examination Scheme and Evaluation**			**Credits (C)=Total Hours/30**
				L Hrs/Week /Sem.)	**T Hrs/Week (Hrs/Sem.)**	**P Hrs/Week (Hrs/Sem.)**	**Term Work (TW) & Self Learning(SL), (TW+SL) Hrs/Sem.**	**CIE**	**SEE**		CIE Marks	SEE Marks	Total Marks	
01	**HSMC**	1BISA7XXC	Research Methodology and IPR	42	0	0	42	3	3	90	50	50	100	**3**
02	**IPCC**	1BISA7XXC	Ai and Robotics (Integrated)	28	0	26	28	5	3	90	50	50	100	**3**
03	**IPCC**	1BISA7XXC	Cloud Computing and Applications	28	0	26	28	5	3	90	50	50	100	**3**
04	**PEC**	1BISA7XXE	Professional Elective Course-III	42	0	0	42	3	3	90	50	50	100	**3**
05	**PEC**	1BISA7XXE	Professional Elective Course-III	42	0	0	42	3	3	90	50	50	100	**3**
06	**PROJ**	1BISA7XP	Project	0	0	0	--	3	3	270	50	50	100	**9**
07		**AAP**	**AICTE Activity Points**	**100 activity points Mandatory for the award of Degree**										
			Total	**182**	**0**	**52**	**234**	**22**	**18**	**720**	**300**	**300**	**600**	**24**

B.E. in Information Science and Engineering

Scheme of Teaching and Examinations

[Applicable to students admitted in AY 2025-26 to 1st Semester and through lateral entry in AY 2026-27 to 3rd Semester]

VIII SEMESTER														
Sl. No.	Course Category	Course Code	Course Title	(Hrs Teaching-Learning Scheme				Examination Duration (Hrs/Sem.)		Total Hours	Examination Scheme and Evaluation			Credits (C)=Total Hours/30
				L Hrs/Week /Sem.)	T Hrs/Week (Hrs/Sem.)	P Hrs/Week (Hrs/Sem.)	Term Work (TW) & Self Learning(SL), (TW+SL) Hrs/Sem.	CIE	SEE		CIE Marks	SEE Marks	Total Marks	
01	**AEC**	1BISA8XXO	MOOCS	42	0	0	42	3	3	90	50	50	100	**3**
02	**OEC**	1BISA8XXO	MOOCS	42	0	0	42	3	3	90	50	50	100	**3**
03	**INT**	1BISA8XXI	Internship	0	0	360	--	3	3	360	50	50	100	**10**
04			**AICTE Activity Points**	**100 activity points Mandatory for the award of Degree**										
Total				**84**	**0**	**360**	**444**	**9**	**9**	**540**	**150**	**150**	**300**	**16**