Visvesvaraya Technological University, Belagavi
Scheme of Teaching and Examinations 2021 (As per NEP-2020)
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2021 – 22)

I Semester (Physics Group)   **[Common to all B.E./B.Tech Programmes]**

Sl. No	Course and Course Code		Course Title	Teaching Department(TD) and Paper SettingBoard (PSB)	Theory Lecture (L)	Tutorial (T)	Practical/ Drawing (P)	Self-Study (SS)	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
1	BSC	21MAT11	Calculus and Linear Algebra	TD and PSB: Mathematics	2	2	--		03	50	50	100	3
2	BSC	21PHY12	Engineering Physics	TD and PSB: Physics	2	2	--		03	50	50	100	3
3	ESC	21ELE13	Basic Electrical Engineering	TD and PSB: E and E Engineering	2	2	--	--	03	50	50	100	3
4	ESC	21CIV14	Elements of Civil Engineering and Mechanics	TD and PSB: Civil Engineering	3	--	--		03	50	50	100	3
5	ESC	21EGDL15	Engineering Graphics	TD: ME, Auto, IP,IEM, Mfg. Engineering PSB: Mechanical Engg	2	--	2		03	50	50	100	3
6	BSC	21PHYL16	Engineering Physics Laboratory	TD and PSB: Physics	--	--	2		03	50	50	100	1
7	ESC	21ELEL17	Basic Electrical Engineering Laboratory	TD and PSB: E and E Engineering	--	--	2		03	50	50	100	1
8	HSMC	21EGH18	Communicative English	TD and PSB: Humanities	1	1	1		03	50	50	100	2
9	AEC	21IDT19	Innovation and Design Thinking	Any Engineering Department	1	--	--		02	50	50	100	1
			TOTAL		**13**	**07**	**07**		**26**	**450**	**450**	**900**	**20**

Note: BSC: Basic Science Course, **ESC**: Engineering Science Course, **HSMC**: Humanity and Social Science & Management Courses, **AEC** –Ability Enhancement Courses.

L –Lecture**, T –** Tutorial, **P-** Practical/ Drawing, **S –** Self Study Component, **CIE**: Continuous Internal Evaluation, **SEE**: Semester End Examination

Credit definition: 1hour Lecture **(L)** per week = **1 Credit** 2 hours Tutorial **(T)** per week = **1 Credit** 2 hours Practical /Drawing (P) per week = **1 Credit**	(a) **Four-credit** courses are to be designed for **50** hours of Teaching-Learning process. (b) **Three credit** courses are to be designed for **40** hours of Teaching-Learning process. (c) **Two credit** courses are to be designed for **25** hours of Teaching-Learning process. (d) **One credit** courses are to be designed for **15** hours of Teaching-Learning process.

AICTE Activity Points to be earned by students admitted to BE/B.Tech., /B.Plan day college programme (For more details refer to Chapter 6,AICTE Activity Point Programme, Model Internship Guidelines):

Over and above the academic grades, every Day College regular student admitted to the 4 years Degree programme and every student entering 4 years Degree programme through lateral entry, shall earn 100 and 75 Activity Points respectively for the award of degree through AICTE Activity Point Programme. Students transferred from other Universities to the fifth semester are required to earn 50 Activity Points from the year of entry to VTU. The Activity Points earned shall be reflected on the student's eighth semester Grade Card.

The activities can be spread over the years, anytime during the semester weekends and holidays, as per the liking and convenience of the student from the year of entry to the programme. However, the minimum hours' requirement should be fulfilled. Activity Points (non-credit) do not affect SGPA/CGPA and shall not be considered for vertical progression.

In case students fail to earn the prescribed activity Points, an Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of the degree only after the release of the Eighth semester Grade Card.

Summer Internship - I (21INT36): All the students admitted shall have to undergo a mandatory summer internship of **03 weeks** during the intervening vacation of II and III semesters. Summer Internship shall include Inter / Intra Institutional activities. A University Viva-voce examination (Presentation followed by question-answer session) shall be conducted during III semester and the prescribed credit shall be included in III semester. The internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take up / complete the internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements. (The faculty coordinator or mentor has to monitor the students' internship progress and interact to guide them for the successful completion of the internship.)

Visvesvaraya Technological University, Belagavi
Scheme of Teaching and Examinations 2021 (As per NEP-2020)
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2021 – 22)

II Semester (Chemistry Group)   **[Common to all B.E./B.Tech Programmes]**

Sl. No	Course and Course Code		Course Title	Teaching Department(TD) and Paper Setting Board (PSB)	Teaching Hours /Week				Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Self-Study	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P	SS					
1	BSC	21MAT21	Advanced Calculus and Numerical Methods	TD and PSB: Mathematics	2	2	--		03	50	50	100	3
2	BSC	21CHE22	Engineering Chemistry	TD and PSB: Chemistry	2	2	--		03	50	50	100	3
3	ESC	**21PSP23**	**Problem Solving through Programming**	TD and PSB: Computer Science and Engineering	2	2	--	--	03	50	50	100	3
4	ESC	21ELN24	Basic Electronics	TD: ECE/E and I/ TCPSB: ECE	2	2	--		03	50	50	100	3
5	ESC	21EME25	Elements of Mechanical Engineering	TD: ME, Auto, IP,IEM, Mfg .Engineering PSB: Mechanical Engg	3	--	--		03	50	50	100	3
6	BSC	21CHEL26	Engineering Chemistry Laboratory	TD and PSB: Chemistry	--	--	2		03	50	50	100	1
7	ESC	**21CPL27**	**Computer Programming Laboratory**	TD and PSB: Computer Science and Engineering	--	--	2		03	50	50	100	1
8	HSMC	21EGH28	Professional Writing Skills in English	TD and PSB: Humanities	1	1	1		03	50	50	100	2
9	AEC	**21SFH29**	**Scientific Foundations of Health**	Any Engineering Department	1	--	--		02	50	50	100	1
				TOTAL	13	09	05		26	450	450	900	20

Note: BSC: Basic Science Course, **ESC**: Engineering Science Course, **HSMC**: Humanity and Social Science & Management Courses, **AEC** –Ability Enhancement Courses.

L –Lecture**, T –** Tutorial, **P-** Practical/ Drawing, **S –** Self Study Component, **CIE**: Continuous Internal Evaluation, **SEE**: Semester End Examination

Credit definition:	(a) **Four credit** courses are to be designed for **50** hours of Teaching – Learning process.
1hour Lecture **(L)** per week = **1 Credit**	(b) **Three credit** courses are to be designed for **40** hours of Teaching – Learning process.
2 hours Tutorial **(T)** per week = **1 Credit**	(c) **Two credit** courses are to be designed for **25** hours of Teaching – Learning process.
2 hours Practical /Drawing (P) per week = **1 Credit**	(d) **One credit** courses are to be designed for **15** hours of Teaching – Learning process.

AICTE Activity Points to be earned by students admitted to BE/B.Tech.,/B.Plan day college programme (For more details refer to Chapter 6, AICTE Activity Point Programme, Model Internship Guidelines):

Over and above the academic grades, every Day College regular student admitted to the 4 years Degree programme and every student entering 4 years Degree programme through lateral entry, shall earn 100 and 75 Activity Points respectively for the award of degree through AICTE Activity Point Programme. Students transferred from other Universities to the fifth semester are required to earn 50 Activity Points from the year of entry to VTU. The Activity Points earned shall be reflected on the student's eighth semester Grade Card.

The activities can be can be spread over the years, anytime during the semester weekends and holidays, as per the liking and convenience of the student from the year of entry to the programme. However, the minimum hours' requirement should be fulfilled. Activity Points (non-credit) do not affect SGPA/CGPA and shall not be considered for vertical progression.

In case students fail to earn the prescribed activity Points, an Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of the degree only after the release of the Eighth semester Grade Card.

Summer Internship - I (21INT36): All the students admitted shall have to undergo a mandatory summer internship of 03 weeks during the intervening vacation of II and III semesters. Summer Internship shall include Inter / Intra Institutional activities. A University Viva-voce examination (Presentation followed by question-answer session) shall be conducted during III semester and the prescribed credit shall be included in III semester. The internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take up / complete the internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements. (The faculty coordinator or mentor has to monitor the students' internship progress and interact to guide them for the successful completion of the internship.)

Visvesvaraya Technological University, Belagavi
Scheme of Teaching and Examinations 2021 (As per NEP-2020)
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2021 – 22)

I Semester (Chemistry Group)   **[Common to all B.E./B.Tech Programmes]**

Sl. No	Course and Course Code		Course Title	Teaching Department(TD) and Paper Setting Board (PSB)	Theory Lecture (L)	Tutorial (T)	Practical/ Drawing (P)	Self-Study (SS)	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
1	BSC	21MAT11	Calculus and Linear Algebra	TD and PSB: Mathematics	2	2	--		03	50	50	100	3
2	BSC	21CHE12	Engineering Chemistry	TD and PSB: Chemistry	2	2	--		03	50	50	100	3
3	ESC	21PSP13	Problem Solving through Programming	TD and PSB: Computer Science and Engineering	2	2	--	--	03	50	50	100	3
4	ESC	21ELN14	Basic Electronics	TD: ECE/E and I/ TC PSB: ECE	2	2	--		03	50	50	100	3
5	ESC	21EME15	Elements of Mechanical Engineering	TD: ME, Auto, IP,IEM, Mfg .Engineering PSB: Mechanical Engg	3	--	--		03	50	50	100	3
6	BSC	21CHEL16	Engineering Chemistry Laboratory	TD and PSB: Chemistry	--	--	2		03	50	50	100	1
7	ESC	21CPL17	Computer Programming Laboratory	TD and PSB: Computer Science and Engineering	--	--	2		03	50	50	100	1
8	HSMC	21EGH18	Communicative English	TD and PSB: Humanities	1	1	1		03	50	50	100	2
9	AEC	21IDT19	Innovation and Design Thinking	Any Engineering Department	1	--	--		02	50	50	100	1
			TOTAL		**13**	**09**	**05**		**26**	**450**	**450**	**900**	**20**

Note: BSC: Basic Science Course, **ESC**: Engineering Science Course, **HSMC**: Humanity and Social Science & Management Courses, **AEC** –Ability Enhancement Courses.

L –Lecture**, T –** Tutorial, **P-** Practical/ Drawing, **S –** Self Study Component, **CIE**: Continuous Internal Evaluation, **SEE**: Semester End Examination

Credit definition: 1hour Lecture **(L)** per week = **1 Credit** 2 hours Tutorial **(T)** per week = **1 Credit** 2 hours Practical /Drawing (P) per week = **1 Credit**	(a) **Four credit** courses are to be designed for **50** hours Teaching – Learning process. (b) **Three credit** courses are to be designed for **40** hours Teaching – Learning process. (c) **Two credit** courses are to be designed for **25** hours Teaching – Learning process. (d) **One credit** courses are to be designed for **15** hours Teaching – Learning process

AICTE Activity Points to be earned by students admitted to BE/B.Tech/B.Plan day college programme (For more details refer to Chapter 6, AICTE Activity Point Programme, Model Internship Guidelines):

Over and above the academic grades, every Day College regular student admitted to the 4 years Degree programme and every student entering 4 years Degree programme through lateral entry, shall earn 100 and 75 Activity Points respectively for the award of degree through AICTE Activity Point Programme. Students transferred from other Universities to the fifth semester are required to earn 50 Activity Points from the year of entry to VTU. The Activity Points earned shall be reflected on the student's eighth semester Grade Card.

The activities can be spread over the years, anytime during the semester weekends and holidays, as per the liking and convenience of the student from the year of entry to the programme. However, the minimum hours' requirement should be fulfilled. Activity Points (non-credit) do not affect SGPA/CGPA and shall not be considered for vertical progression.

In case students fail to earn the prescribed activity Points, an Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of the degree only after the release of the Eighth semester Grade Card.

Summer Internship - I (21INT36): All the students admitted shall have to undergo a mandatory summer internship of 03 weeks during the intervening vacation of II and III semesters. Summer Internship shall include Inter / Intra Institutional activities. A University Viva-voce examination (Presentation followed by question-answer session) shall be conducted during III semesters and the prescribed credit shall be included in III semesters. The internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take up / complete the internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements. (The faculty coordinator or mentor has to monitor the students' internship progress and interact to guide them for the successful completion of the internship.)

Visvesvaraya Technological University, Belagavi
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Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2021 – 22)

II Semester (Physics Group)   **[Common to all B.E./B.Tech Programmes]**

Sl. No	Course and Course Code		Course Title	Teaching Department(TD) and Paper SettingBoard (PSB)	Theory Lecture (L)	Tutorial (T)	Practical/ Drawing (P)	Self-Study (SS)	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
1	BSC	21MAT21	Advanced Calculus and Numerical Methods	TD and PSB: Mathematics	2	2	--		03	50	50	100	3
2	BSC	21PHY22	Engineering Physics	TD and PSB: Physics	2	2	--		03	50	50	100	3
3	ESC	21ELE23	Basic Electrical Engineering	TD and PSB: E and E Engineering	2	2	--	--	03	50	50	100	3
4	ESC	21CIV24	Elements of Civil Engineering and Mechanics	TD and PSB: Civil Engineering	3	--	--		03	50	50	100	3
5	ESC	21EGDL25	Engineering Graphics	TD: ME, Auto, IP,IEM, MfgEngineering PSB: Mechanical Engg	2	--	2		03	50	50	100	3
6	BSC	21PHYL26	Engineering Physics Laboratory	TD and PSB: Physics	--	--	2		03	50	50	100	1
7	ESC	21ELEL27	Basic Electrical Engineering Laboratory	TD and PSB: E and E Engineering	--	--	2		03	50	50	100	1
8	HSMC	21EGH28	Professional Writing Skills in English	TD and PSB: Humanities	1	1	1		03	50	50	100	2
9	AEC	**21SFH29**	**Scientific Foundations of Health**	Any Engineering Department	1	--	--		02	50	50	100	1
	TOTAL				**13**	**07**	**07**		**26**	**450**	**450**	**900**	**20**

Note: BSC: Basic Science Course, **ESC**: Engineering Science Course, **HSMC**: Humanity and Social Science & Management Courses, **AEC** –Ability Enhancement Courses.

L –Lecture**, T –** Tutorial, **S –** Practical/ Drawing, **S –** Self Study Component, **CIE**: Continuous Internal Evaluation, **SEE**: Semester End Examination

| Credit definition: | (4th) **Four credit** courses are to be designed for **50** hours Teaching – Learning process. |
| 1hour Lecture **(L)** per week = **1 Credit**
2 hours Tutorial **(T)** per week = **1 Credit**
2 hours Practical /Drawing (P) per week = **1 Credit** | (5th) **Three credit** courses are to be designed for **40** hours Teaching – Learning process.
(6th) **Two credit** courses are to be designed for **25** hours Teaching – Learning process.
(7th) **One credit** courses are to be designed for **15** hours Teaching – Learning process |

AICTE Activity Points to be earned by students admitted to BE/B.Tech., /B.Plan day college programme (For more details refer to Chapter 6,AICTE Activity Point Programme, Model Internship Guidelines):

Over and above the academic grades, every Day College regular student admitted to the 4 years Degree programme and every student entering 4 years Degree programme through lateral entry, shall earn 100 and 75 Activity Points respectively for the award of degree through AICTE ActivityPoint Programme. Students transferred from other Universities to the fifth semester are required to earn 50 Activity Points from the year of entry toVTU. The Activity Points earned shall be reflected on the student's eighth semester Grade Card.

The activities can be spread over the years, anytime during the semester weekends and holidays, as per the liking and convenience of the student from the year of entry to the programme. However, the minimum hours' requirement should be fulfilled.   Activity Points (non-credit) do not affect SGPA/CGPA and shall not be considered for vertical progression.

In case students fail to earn the prescribed activity Points, an Eighth semester Grade Card shall be issued only after earning the required activity
Points. Students shall be admitted for the award of the degree only after the release of the Eighth semester Grade Card.

Summer Internship - I (21INT36): All the students admitted shall have to undergo a mandatory summer internship of 03 weeks during the intervening vacation of II and III semesters. Summer Internship shall include Inter / Intra Institutional activities. A University Viva-voce examination (Presentation followed by question-answer session) shall be conducted during III semester and the prescribed credit shall be included in III semester. The internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take up / complete the internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements. (The faculty coordinator or mentor has to monitor the students' internship progress and interact to guide them for the successful completion of the internship.)

Visvesvaraya Technological University, Belagavi
B.E. in name of the Program
Scheme of Teaching and Examination 20YY-YY
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2021-22)

III SEMESTER

Sl.No		Course and Course Code	Course Title	Teaching Department	Teaching Hours /Week				Duration in hours	Examination			Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Self Study		CIE Marks	SEE Marks	Total Marks	
					L	T	P	S					
1	BSC	21MAT31	Basic Mathematics Course							50	50	100	3
2	PCC	21XX32	PROFESSIONAL CORE COURSE (Integrated)		3	0	2		4	50	50	100	4
3	PCC	21XX33	PROFESSIONAL CORE COURSE (Integrated)		3	0	2		4	50	50	100	4
4	PCC	21XX34	PROFESSIONAL CORE COURSE							50	50	100	3
5	PCC	21XXL35	PROFESSIONAL CORE COURSE LAB							50	50	100	1
6	INT	21INT36	**SUMMER INTERSHIP -I**							50	50	100	2
7	HSMC	21KSK37	MANDATORY COURSES (Govt. of Karnataka) / **Samskrutika Kannada**							50	50	100	1
		21KBK37	MANDATORY COURSES (Govt. of Karnataka) / **Balake Kannada**										
			OR										
		21CIP37	Constitution of India, Professional Ethics										
8	AEC	21XX38x	Ability Enhancement Courses-III							50	50	100	1
9	UHV	21UH39	Social Connect and Responsibility							50	50	100	1
			Total							**450**	**450**	**900**	**20**

Note: BSC: Basic Science Course, **PCC**: Professional Core Course, **HSMC**: Humanity and Social Science & Management Courses, , **AEC** –Ability Enhancement Courses. **INT** –Internship, **UHV**- Universal Human Value Courses

L –Lecture**, T –** Tutorial, **S –** Practical/ Drawing, **S –** Self Study Component, **CIE**: Continuous Internal Evaluation, **SEE**: Semester End Examination

The course prescribed to lateral entry Diploma holders admitted to III semester of Engineering programs													
21 KBK37/47 **Balake Kannada** (Kannada for communication) is for non-Kannada speaking, reading, and writing students, and 21KSK37/47 **Samskrutika Kannada** (Kannada for Administration) is for students who speak, read and write Kannada.													
10	NCMC	**21MATDIP31**	**Additional Mathematics - I**	**Maths**	02	01	--			100	---	100	0

1. The mandatory non – credit courses **Additional Mathematics I and II** prescribed for III and IV semesters respectively, to the lateral entry Diploma holders admitted to III semester of BE/B.Tech., programs, shall attend the classes during the respective semesters to complete all the formalities of the course and appear for the Continuous Internal Evaluation (CIE). In case, any student fails to register for the said course/fails to secure the minimum 40 % of the prescribed CIE marks, he/she shall be deemed to have secured an F grade. In such a case, the student has to fulfill the requirements during subsequent semester/s to appear for CIE.
2. These Courses shall not be considered for vertical progression, but completion of the courses shall be mandatory for the award of degree.

Lateral Entry students: All the students admitted under the lateral entry category shall have to undergo a mandatory **summer internship-I** of **03 weeks** during the intervening vacation of III and IV semesters. Summer Internship shall include Inter / Intra Institutional activities. A University Viva-voce examination shall be conducted during the IV semester and the prescribed credit shall be included in the III semester after students clear this head. The internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take up / complete the internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements. (The faculty coordinator or mentor has to monitor the students' internship progress and interact to guide them for the successful completion of the internship.)

Professional Core Course (Integrated): Theory Syllabus of Professional Core Courses integrated with Practical Syllabus of the same course. Credit for integrated subject will be (L:T:P =3:0:2)/(L:T:P = 2:2:2) = 04. In such a course there is no Semester End Examination (SEE) for the practical syllabus of the course, however, Continuous Internal Evaluation (CIE) will be conducted for the practical topics.

Summer Internship-I: SEE component will be the only seminar/Presentation and question answer session

Ability Enhancement Courses-III	
21XX381	
21XX382	
21XX383	
21XX384	
21XX385	

Visvesvaraya Technological University, Belagavi
B.E. in name of the Program
Scheme of Teaching and Examination 20YY-YY
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IV SEMESTER

Sl. No	Course and Course Code		Course Title	Teaching Department	Theory Lecture L	Tutorial T	Practical/ Drawing P	Self Study Component S	Duration in hours	CIE Marks	SEE Marks	Total Marks	Credits
1	BSC	21MAT41	Relevant Mathematics Course Problem Solving as required by the concerned program							50	50	100	3
2	PCC	21XX42	PROFESSIONAL CORE COURSE (Integrated)		3	0	2		4	50	50	100	4
3	PCC	21XX43	PROFESSIONAL CORE COURSE (Integrated)		3	0	2		4	50	50	100	4
4	PCC	21XX44	PROFESSIONAL CORE COURSE							50	50	100	3
5	AEC	21BE45	**Biology for Engineers**	BT, CHE, PHY,						50	50	100	2
5	PCC	21XXL46	PROFESSIONAL CORE COURSE LAB							50	50	100	1
6	HSMC	21KSK47	MANDATORY COURSES (Govt of Karnataka) **Samskrutika Kannada**	HSMC						50	50	100	1
		21KBK47	MANDATORY COURSES (Govt of Karnataka) **Balake Kannada**										
			OR										
		21CIP47	Constitution of India, Professional Ethics										
8	AEC	21XX48x	Ability Enhancement Courses-IV							50	50	100	1
9	UHV	21UH49	Universal Human Values &Professional Ethics							50	50	100	1
			TOTAL							450	450	900	20

Note: BSC: Basic Science Course, **PCC**: Professional Core Course, **HSMC**: Humanity and Social Science & Management Courses, **AEC** –Ability Enhancement Courses. **INT** –Internship, **UHV**- Universal Human Value Courses

L –Lecture**, T –** Tutorial, **P-** Practical/ Drawing, **S –** Self Study Component, **CIE**: Continuous Internal Evaluation, **SEE**: Semester End Examination

Summer Internship-II (21INT58) : At the End Of the **fourth** Semester **four - weeks** Summer Internship Shall Be Carried Out – Based On industrial/Govt./NGO/MSME/Rural Internship/Innovation/Entrepreneurship. Credited In the fifth Semester. All the students admitted shall have to undergo a mandatory internship of 04 weeks during the vacation of IV semesters. A University Viva-Voce examination (Presentation followed by Question Answer session) shall be conducted during V semester and the prescribed credit shall be included in the V semester. The internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take up/complete the internship shall be declared fail and shall have to complete during subsequent University examination after satisfying the internship requirements. (The faculty coordinator or mentor has to monitor the students' internship progress and interact to guide them for the successful completion of the internship.)
Summer Internship-II: SEE component will be the only seminar/Presentation and question answer session

21KBK37/47 **Balake Kannada** (Kannada for communication) is for non-Kannada speaking, reading, and writing students, and 21KSK37/47 **Samskrutika Kannada** (Kannada for Administration) is for students who speak, read and write Kannada.

The course prescribed to lateral entry Diploma holders admitted to III semester of Engineering programs												
10	NCMC	**21MATDIP41**	**Additional Mathematics - II**	**Maths**	**02**	**01**	**--**		**100**	**---**	**100**	**0**

1. The mandatory non – credit courses **Additional Mathematics I and II** prescribed for III and IV semesters respectively, to the lateral entry Diploma holders admitted to III semester of BE/B.Tech., programs, shall attend the classes during the respective semesters to complete all the formalities of the course and appear for the Continuous Internal Evaluation (CIE). In case, any student fails to register for the said course/fails to secure the minimum 40 % of the prescribed CIE marks, he/she shall be deemed to have secured an F grade. In such a case, the student has to fulfill the requirements during subsequent semester/s to appear for CIE.

2. These Courses shall not be considered for vertical progression, but completion of the courses shall be mandatory for the award of degree

Professional Core Course (Integrated): Theory Syllabus of Professional Core Courses integrated with Practical Syllabus of the same course. Credit for integrated subject will be (L:T:P =3:0:2)/(L:T:P = 2:2:2) = 04. In such a course there is no Semester End Examination (SEE) for the practical syllabus of the course, however, Continuous Internal Evaluation (CIE) will be conducted for the practical topics.

Ability Enhancement Courses-IV	
21XX481	
21XX482	
21XX483	
21XX484	
21XX485	

Visvesvaraya Technological University, Belagavi
B.E. in name of the Program
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V SEMESTER

Sl. No	Course and Course Code		Course Title	Teaching Department	Teaching Hours /Week				Duration in	Examination			Credit
					Theory Lecture	Tutorial	Practical/ Drawing	eSelf Study Component		CIE Marks	SEE Marks	Total Marks	
					L	T	P	S					
1	BSC	21XX51	Professional Core Course							50	50	100	3
2	PCC	21XX52	PROFESSIONAL CORE COURSE (Integrated)		3	0	2			50	50	100	4
3	PCC	21XX53	Professional Core Course							50	50	100	3
4	PCC	21XX54	Professional Core Course							50	50	100	3
5	PCC	21XXL56	Professional Core Course Lab							50	50	100	1
6	AEC	21XX57	Research Methodology & Intellectual property rights							50	50	100	2
7	INT	21INT58	**Summer Internship-II**							50	50	100	3
8	HSMC	21CIV59	Environmental Studies	Civil/Environmental Chemistry/Biotech [Paper setting: Civil Engineering Board]						50	50	100	1
			TOTAL							400	400	800	20

Note: BSC: Basic Science Course, **PCC**: Professional Core Course, **HSMC**: Humanity and Social Science & Management Courses, **AEC** –Ability Enhancement Courses. **INT** –Internship,

L –Lecture**, T –** Tutorial, **P-** Practical/ Drawing, **S –** Self Study Component, **CIE**: Continuous Internal Evaluation, **SEE**: Semester End Examination

| 11 | NCMC | 21PENSS42 | **Physical Education(Yoga/Sport)/NSS-II** | PE | - | - | 2 | | | 50 | 50 | 100 | 0 |

1. The mandatory non – credit courses **Physical Education(Yoga/Sport)/NSS I and II** prescribed for III and IV semesters respectively, to the students admitted to III semester of BE/B.Tech., programs, shall attend the classes during the respective semesters to complete all the formalities of

the course and appear for the University examination. In case, any student fails to register for the said course/fails to secure the minimum 40 % of the prescribed CIE marks, he/she shall be deemed to have secured an F grade. In such a case, the student has to fulfill the requirements during subsequent semester/s to appear for SEE.

2. These Courses shall not be considered for vertical progression, but completion of the courses shall be mandatory for the award of degree.

3. The students who take course on Physical education he has to take up practical examination for SEE. The students who take NSS course have to submit report, for SEE has to present(PPT) and answer vivo-voce for marks in the ration 50:50

Professional Core Course (Integrated): Theory Syllabus of Professional Core Courses integrated with Practical Syllabus of the same course. Credit for integrated subject will be (L:T:P =3:0:2) = 04. In such a course there is no Semester End Examination (SEE) for the practical syllabus of the course, however, Continuous Internal Evaluation (CIE) will be conducted for the practical topics.

Visvesvaraya Technological University, Belagavi
B.E. in name of the Program
Scheme of Teaching and Examination 20YY-YY
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2021-22)

VI SEMESTER

Sl.No	Course and CourseCode		Course Title	Teaching Department	Theory Lecture (L)	Tutorial (T)	Practical/ Drawing (P)	Self Study (S)	Duration inhours	CIE Marks	SEE Marks	Total Marks	Credits
1	HSMC	21XX61	This course to be as per the requirement of the concerned programme. However, the title of the course should have the word **Management**							50	50	100	3
2	PCC	21XX62	PROFESSIONAL CORE COURSE (Integrated)		3	0	2			50	50	100	4
3	PCC	21XX63	Professional Core Course							50	50	100	3
4	PEC	21XX64x	Professional Elective Course-I							50	50	100	3
5	OEC	21XX65x	Open Elective Course-I							50	50	100	3
6	PCC	21XXL66	Professional Core Course Lab							50	50	100	1
7	MP	21XXMP67	Mini Project							50	50	100	2
8	AEC	21XX68x	Ability Enhancement Course-V							50	50	100	1
			TOTAL							**400**	**400**	**800**	**20**

Note: BSC: Basic Science Course, **PCC**: Professional Core Course, **HSMC**: Humanity and Social Science & Management Courses, **PEC**: Professional Elective Courses, **OEC** –Open Elective Course, **AEC** –Ability Enhancement Courses. **MP** –Mini Project,

L –Lecture**, T –** Tutorial, **P-** Practical/ Drawing, **S –** Self Study Component, **CIE**: Continuous Internal Evaluation, **SEE**: Semester End Examination

| 11 | NCMC | 21PENSS42 | Physical Education(Yoga/Sport)/NSS-II | PE | - | - | 2 | | | 50 | 50 | 100 | 0 |

1. The mandatory non – credit courses **Physical Education(Yoga/Sport)/NSS I and II** prescribed for III and IV semesters respectively, to the students admitted to III semester of BE/B.Tech., programs, shall attend the classes during the respective semesters to complete all the formalities of the course and appear for the University examination. In case, any student fails to register for the said course/fails to secure the minimum 40 % of the prescribed CIE marks, he/she shall be deemed to have secured an F grade. In such a case, the student has to fulfill the requirements during subsequent semester/s to appear for SEE.
2. These Courses shall not be considered for vertical progression, but completion of the courses shall be mandatory for the award of degree.

3. The students who take course on Physical education he has to take up practical examination for SEE. The students who take NSS course have to submit report, for SEE has to present(PPT) and answer vivo-voce for marks in the ration 50:50

Research/Industrial Internship (21INT82) – At the End of the sixth / Seventh semester (in two cycles to accommodate all the students of the University) Research/Industrial Internship shall be carried out – Based on industrial/Govt./NGO/MSME/Rural Internship/Innovation/Entrepreneurship. All the students admitted shall have to undergo a mandatory internship of **24 weeks** during the vacation of VI/VII semesters. A University Viva-Voce examination

shall be conducted during VII/VIII semester and the prescribed credit shall be included in VII/VIII semester. The internship shall be considered as a head ofpassing and shall be considered for the award of degree. Those, who do not take up/complete the internship shall be declared fail and shall have to Complete during subsequent University examination after satisfying the internship requirements.

Research internship Students have to take up research internships at Centers of Excellence (CoE) / Study Centers established in the same institute and /or out of the institute at reputed research organizations / Institutes. A research internship is intended to give you the flavor of current research going on in a particular topic/s. This help students get familiarized with the field, the skill needed the effort amount and kind of effort required for carrying out research in that field.

Industry internships: Is an extended period of work experience undertaken by university/Institute students looking to supplement their degree with professional development. The students are allowed to prepare themselves for the workplace and develop practical skills as well as academic ones. It also helps them learn to overcome unexpected obstacles and successfully navigate organizations, perspectives, and cultures. Dealing with "unexpected contingencies" helps students recognize, appreciate, and adapt to organization realities by tempering knowledge with practical constraints.
The student can take up Interdisciplinary Industry Internship. Students can undergo industry internship in recognized industry from local/within the state/within the country/abroad within the stipulated time as mentioned in the scheme The faculty coordinator or mentor has to monitor the students' internship progress and interact to guide them for the successful completion of the internship.

Mini-project work: Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary Mini-project can be assigned to an individual student or to a group having not more than 4 students. (or Mini Project is a laboratory-oriented course which will provide a platform to students to enhance their practical knowledge and skills by the development of small systems/applications)

CIE procedure for Mini-project:

(i) **Single discipline:** The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide. The CIE marks awarded for the Mini-project work shall be based on the evaluation of project report, project presentation skill, and question and answer session in the ratio of 50:25:25. **The marks awarded for the project report shallbe the same for all the batch mates.**

(ii) **Interdisciplinary**: Continuous Internal Evaluation shall be group-wise at the college level with the participation of all the guides of the college. The CIE marks awarded for the Mini-project, shall be based on the evaluation of project report, project presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

SEE for Mini-project:

(i) **Single discipline**: Contribution to the Mini-project and the performance of each group member shall be assessed individually in the semester end examination (SEE) conducted at the department.

(ii) **Interdisciplinary**: Contribution to the Mini-project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belongs to.

Professional Elective Courses(PEC):

A professional elective (PEC) course is intended to enhance the depth and breadth of the educational experience in the selected stream of the Engineering & Technology curriculum. Multidisciplinary courses that supplement the programs have been added as elective courses. These courses deal with the latest trend and advance technology in the selected stream of engineering. There are 03 groups of PEC are made available for undergraduate students in the curriculum. Each group will provide an option to select one subject out of four to five subjects.. Each group of Professional Elective Courses contains all stream courses, which will help the students to select and study particular stream courses of his interest. (Courses which are common to AU, ME, IP Board should have the same code) Similarly for (CSE, ISE, MCA) and (CV, Arch, Mining) and (EEE, ECE, EIE,) and (CH, SX, TX).

The minimum students' strength for offering professional electives is 05, if the strength is less than the 05 then the college has to take the permission to offer the course.

Professional Elective Courses may be Integrated courses (Both Theory and Practical syllabus), However total credits for the course remain (L:T:P = 2:0:2)/(L:T:P = 1:2:2)= 03 only.

Professional Core Course (Integrated): Theory Syllabus of Professional Core Courses integrated with Practical Syllabus of the same course. Credit for integrated subject will be (L:T:P =3:0:2) = 04. In such a course there is no Semester End Examination (SEE) for the practical syllabus of the course, however, Continuous Internal Evaluation (CIE) will be conducted for the practical topics. (Details are mentioned on the last page as Annexure-I).

Open Elective Courses:

All Open Electives are offered to students of all branches in general. However, a student shall choose an open Elective from the list in such a manner that he/she has not studied the same course in any form during the Programme.

Students can select any one of the open electives offered by other Departments except those that are offered by the parent Department (Please refer to the list of open electives). Selection of an open elective shall not be allowed if,

- The candidate has studied the same course during the previous semesters of the programme.
- The syllabus content of open electives is similar to that of the Departmental core courses or professional electives.
- A similar course, under any category, is prescribed in the higher semesters of the programme.
- Registration to electives shall be documented under the guidance of Programme Coordinator/ Advisor/Mentor.

Courses from Law, Business (MBA), Medicine, Arts, Commerce, may be offered as Open Elective Courses (OEC) However, the college has to take approval from the University if such courses are not listed in the group within the month of commencement of the semester.

The minimum students' strength for offering professional electives is 05, if the strength is less than the 05 then colleges have to take the permission to offer the course from the University.

Professional Core Course (Integrated): Theory Syllabus of Professional Core Courses integrated with Practical Syllabus of the same course. Credit for integrated subject will be (L: T: P =3:0:2)/(L:T:P=2:2:2) = 04. In such a course there is no Semester End Examination (SEE) for the practical syllabus of the course, however Continuous Internal Evaluation (CIE) will be conducted for the practical topics.

Professional Elective Courses-I		Open Elective Courses-I	
Subject Code	Title	Subject Code	Title
21XX641		21XX651	
21XX642		21XX652	
21XX643		21XX653	
21XX644		21XX654	
21XX645		21XX655	Course on NCC

Ability Enhancement Courses-V	
21XX681	
21XX682	
21XX683	
21XX684	
21XX685	

Visvesvaraya Technological University, Belagavi
B.E. in name of the Program
Scheme of Teaching and Examination 20YY-YY
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
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VII/VIII SEMESTER

Sl.No	Course and Coursecode		Course Title	Teaching Department	Teaching Hours /Week				Duration in hours	Examination			Credits
					Theory Lecture	Tutorial	Practical / Drawing	Self Study		CIE Marks	SEE Marks	Total Marks	
					L	T	P	S					
1	PCC	21XX71	Professional Core Course							50	50	100	3
2	PEC	21XX72X	Professional elective Course-II							50	50	100	3
3	PEC	21XX73X	Professional elective Course-III							50	50	100	3
4	OEC	21XX74X	Open elective Course-II							50	50	100	3
5	Project	21XXP75	Project work							100	100	200	10
6	AEC	21XX76x	Ability Enhancement Course –VI (Online)							--	--	--	2
	TOTAL									300	300	600	24

OR

VIII/VII SEMESTER (1)

Sl.No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Duration inhours	Examination			Credits
					Theory Lecture	Tutorial	Practical / Drawing		CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	Seminar	21XXS81	Technical Seminar						100	--	100	01
2	Internship	21INT82	Research/Industry Internship*						100	100	200	15
	TOTAL								200	100	300	16

Note: (1) University /Institutions may swap 7th and 8th Semester Course work to accommodate industry/research internship at the end of sixth semester /at the end of seventh semester to balance the workload. (2) Credits earned for the course prescribed will be accounted in 8th semester (3) Credits earned for major project/seminar/industry research internship will be accounted in 8th semester.

Research / Industry Internship-(21INT82) : may be interdisciplinary in nature. If provision is there all the students of the program can take internship at 8th semester, if not 50% of students can take internship-III at 7th semester level and remaining 50% students can take in 8th semester level.

Note: PCC: Professional Core Course, **PEC**: Professional Elective Courses, **OEC** –Open Elective Course, **AEC** –Ability Enhancement Courses. **INT** –Internship, **L** –Lecture**, T –** Tutorial, **P-** Practical/ Drawing, **S –** Self Study Component, **CIE**: Continuous Internal Evaluation, **SEE**: Semester End Examination

AICTE activity Points: In case students fail to earn the prescribed activity Points, the Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of the degree only after the release of the Eighth semester Grade Card.

Activity points of the students who have earned the prescribed AICTE activity Points shall be sent to the University along with the CIE marks of 8th semester. In case of students who have not satisfied the AICTE activity Points at the end of the eighth semester, the column under activity Points shall be marked NSAP (Not Satisfied Activity Points).

TECHNICAL SEMINAR(21XXS81): The objective of the seminar is to inculcate self-learning, face the audience confidently, enhance communication skill, involve in group discussion, and present and exchange ideas. Each student, under the guidance of a Faculty, shall choose, preferably, a recent topic of his/her interest relevant to the Course of Specialization.

- Carry out literature survey, systematically organize the seminarcontent.
- Prepare the report with own sentences, avoiding a cut and paste act.
- Type the matter to acquaint with the use of Micro-soft equation and drawing tools or any such facilities.
- Present the seminar topic orally and/or through PowerPoint slides.
- Answer the queries and involve in debate/discussion.
- Submit a typed report with a list of references.

The participants shall take part in the discussion to foster a friendly and stimulating environment in which the students are motivated to reach high standards and become self-confident.

Evaluation Procedure:

The CIE marks for the seminar shall be awarded (based on the relevance of the topic, presentation skill, participation in the question and answer session, and quality of report) by the committee constituted for the purpose by the Head of the Department. The committee shall consist of three teachers from the department with the senior-most acting as the Chairman.

Marks distribution for CIE of the course:

Seminar Report:50 marks

Presentation skill:25 marks

Question and Answer:25 marks.■

PROJECT WORK (21XXP75): The objective of the Project work is- To encourage independent learning and the innovative attitude of the students. To develop interactive, communication, organization, time management, and presentation skills. To impart flexibility and adaptability. To inspire independence and team working. To expand intellectual capacity, credibility, judgment, intuition. To adhere to punctuality, setting and meeting deadlines. To instill responsibilities to oneself and others. To train students to present the topic of project work in a seminar without any fear, face the audience confidently, enhance communication skills, involve in group discussion to present and exchange ideas

CIE procedure for Project Work:

(1) **Single discipline:** The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide.

The CIE marks awarded for the project work, shall be based on the evaluation of project work Report, project presentation skill, and question and answer session in the ratio 50:25:25. The marks awarded for the project report shall be the same for all the batch mates.

(2) Interdisciplinary: Continuous Internal Evaluation shall be group-wise at the college level with the participation of all guides of the college. Participation of external guide/s, if any, is desirable. The CIE marks awarded for the project work, shall be based on the evaluation of project work Report, project presentation skill, and question and answer session in the ratio 50:25:25. **The marks awarded for the project report shall be the same for all the batch mates.**

Professional Elective Courses-II		Professional Elective Courses-III	
Subject Code	**Title**	**Subject Code**	**Title**
21XX721		21XX731	
21XX722		21XX732	
21XX723		21XX733	
21XX724		21XX734	
21XX725		21XX735	

Open Elective Courses-II		Ability Enhancement Courses-VI Online Course list	
Subject Code	**Title**	**Subject Code**	**Title**
21XX741		21XX761	
21XX742		21XX762	
21XX743		21XX763	
21XX744		21XX764	
21XX745	Course on NCC	21XX765	