



ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ

"ಮಿಶನ್ ಅಧಿನಿಯಮ ರೆಫ್ಲೆ"ರ ಅಡಿಯಲ್ಲ ಕನಾಟಕ ಸರ್ಕಾರದಿಂದ ಸಾಫ್ಟ್‌ವರದ ರಾಜ್ಯ ವಿಶ್ವವಿದ್ಯಾಲಯ
“ಜ್ಞಾನ ಸಂಗಮ”, ಬೆಳಗಾವಿ-ಜಂಂಗಾಲ, ಕನಾಟಕ, ಭಾರತ

Visvesvaraya Technological University

(State University of Government of Karnataka Established as per the VTU Act, 1994)

“Jnana Sangama” Belagavi-590018, Karnataka, India

Phone: (0831) 2498100, Fax: (0831) 2405467, Website: vtu.ac.in

Dr. A. S. Deshpande B.E., M.Tech., Ph.D.
Registrar

Phone: (0831) 2498100
Fax: (0831) 2405467

Ref: VTU/BOS/A9/2020-21 /

2702

Date:

22 SEP 2021

NOTIFICATION

Subject: Commencement of ODD semester of UG-PG programs for the year 2021-22
regarding...

Reference: Hon'ble Vice-Chancellor's Approval dated: 22.09.2022

The academic calendar concerned to ODD semesters of Under-graduate and Post-graduate, programmes of University is hereby notified as below-.

The Principals of Affiliated, Constituent, and Autonomous Engineering Colleges are hereby informed to bring the content of this circular to the notice of all the concerned.

Sd/-
REGISTRAR

Encl: As mentioned above.

To,

1. The Principals of all affiliated/ constituent /Autonomous Engineering Colleges under the ambit of VTU Belagavi.
2. The Chairpersons of all Departments, Centres for PG Studies in Belagavi, Kalaburgi, Muddenahalli, and Mysore.

Copy to.

1. To the Hon'ble Vice-Chancellor through the secretary to VC, VTU Belagavi for information
2. The Registrar (Evaluation), VTU Belagavi for information.
3. The Regional Directors (I/c) of all the regional offices of VTU for circulation.
4. The Special Officer CNC VTU Belagavi for uploading on VTU website
5. PS to Registrar VTU Belagavi
6. All the concerned Special Officer/s and Caseworker/s of the academic section, VTU, Belagavi



REGISTRAR
VPA
22/09/2021



Academic Calendar for ODD Semester of UG programmes for year 2021-22

	V semester B.E./B.Tech.	V semester B.Arch./ B.Plan.	VII semester B.E./B.Tech.	VII semester B.Plan./B.Arch	IX semester B.Arch	III semester B.E./ B.Tech.	III Semester B.Arch.	III semester B. Plan	I semester B.E./B.Tech.	I semester B.Arch/B.Plan
Commencement of ODD Semester	01.10.2021	01.10.2021	01.10.2021	01.10.2021	01.10.2021	18.10.2021	18.10.2021	18.10.2021	Will be announced later	
Last Working day of ODD Semester	31.01.2022	31.01.2022	31.01.2022	31.01.2022	31.01.2022	19.02.2022	19.02.2022	19.02.2022		
Practical Examination	01.02.2022 To 10.02.2022	01.02.2022 To 10.02.2022	01.02.2022 To 10.02.2022	01.02.2022 To 10.02.2022	---	21.02.2022 To 04.03.2022	21.02.2022 To 04.03.2022	21.02.2022 To 04.03.2022		
Theory Examinations	11.02.2022 To 25.03.2022	11.02.2022 To 25.03.2022	11.02.2022 To 25.03.2022	11.02.2022 To 25.03.2022	---	07.03.2022 To 25.03.2022	07.03.2022 To 25.03.2022	07.03.2022 To 25.03.2022		
Internship	---	---	---	---	---	---	---	---		
Internship Viva Voce/ Project viva	---	---	---	---	---	---	---	---		
Summer Project / Professional training / Organization Study	---	---	---	---	---	---	---	---		
Submission of the report to University	---	---	---	---	---	---	---	---		
Commencement of EVEN Semester	04.04.2022	04.04.2022	04.04.2022	04.04.2022	07.02.2022	11.04.2022	11.04.2022	11.04.2022		

Please Note:

- The academic sessions for ODD semesters should commence from the **dates mentioned** above.
- The Institute needs to function for **six days** a week with additional hours (**Saturday is a full working day**). #if required the college can plan to have extra classes even on Sundays also.
- Faculty should conduction additional tutorial classes **ONLINE** to solve the doubts of the students.
- The faculty/staff shall be available to undertake any work assigned by the university.
- Notification regarding the Calendar of Events relating to the conduct of University **Examinations** will be issued by the Registrar (Evaluation) from time to time.
- Academic Calendar **may be modified** based on guidelines/directions issued in the future by MHRD/UGC/AICTE/State Government.
- Academic Calendar is also applicable for **Autonomous Colleges**. In case if any changes are to be effected by Autonomous Colleges in the academic terms and examination schedule, they could do so with the approval of the University.
- The offline classes may be conducted either by **staggering** the timings in 02 sessions in a day with 50% capacity for each session or full day session with 50% capacity on alternative days, following all SOPs.
- The college has to conduct offline classes to cover **80%** of the syllabus of the courses; however, **20%** of the syllabus can be covered in virtual (Online) mode. **Attendance** of the students' for offline and online classes is mandatory and record should be maintained and submitted to university whenever informed.
- Students joining to VII semester B.E./B.Tech., should complete the **Internship** before the commencement of the classes.



REGISTRAR
 



ವಿಶೇಷರಂಗ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ

“ಧರ್ಮಯ ಅಧಿನಿಯಮ ರೆಫರ್ಲರ್ ಅರ್ಹಿಯಲ್ಲಿ ಕನಾಡಿಕ ಸರ್ಕಾರದಿಂದ ಸಾಫ್ಟ್‌ವರ್ಡಾದ ರಾಜ್ಯ ವಿಶ್ವವಿದ್ಯಾಲಯ

“ಜ್ಞಾನ ಸಂಗಮ”, ಬೆಳಗಾವಿ-೫೯೦೦೧೮, ಕರ್ನಾಟಕ, ಭಾರತ

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Registrar

Ref: VTU/BOS/SO2/2020-21 / **6335**

Revised – NOTIFICATION (1)

Date: **15 MAR 2022**

Subject: Revised-Academic Calendar of semester B.E./B.Tech./B.Plan./B.Arch., and III semesters B.E./B.Tech. programs for AY 2021-22 regarding...

Reference: Hon'ble Vice-Chancellor's approval dated: 14.03.2022

The academic calendar concerned to I semester B.E./B.Tech./B.Plan./B.Arch and III semester of B.E. / B.Tech. Programs of University is hereby re-notified as below-

Events	I semester B.E./B.Tech./	I semester B.Plan./B.Arch.	III semester B.E./B.Tech.
Commencement of ODD Semester	13.12.2021	13.12.2021	18.10.2021
Last Working day of ODD Semester	13.04.2022	13.04.2022	13.04.2022
Practical Examinations	18.04.2022 to 27.04.2022	18.04.2022 to 27.04.2022	16.04.2022 to 23.04.2022
Theory Examinations	28.04.2022 to 20.05.2022	28.04.2022 to 20.05.2022	25.04.2022 to 15.05.2022
Commencement of EVEN Semester	23.05.2022	23.05.2022	16.05.2022

- If any of the above dates are declared to be a holiday, then the corresponding event will come into effect on the next working day.
- Notification regarding the Calendar of Events relating to the conduct of University **Examinations** will be issued by the Registrar (Evaluation) from time to time.
- Academic Calendar **may be modified** based on guidelines/directions issued in the future by MHRD/UGC/AICTE/State Government.
- Academic Calendar is also applicable for **Autonomous Colleges**. In case if any changes are to be effected by Autonomous Colleges in the academic terms and examination schedule, they could do so with the approval of the University.
- The faculty/staff shall be available to undertake any work assigned by the university.

The Principals of Affiliated, Constituent and Autonomous Engineering Colleges are hereby informed to bring the content of this circular to the notice of all the concerned.

Sd/-
REGISTRAR

To,

- The Principals of all affiliated/ constituent /Autonomous Engineering Colleges under the ambit of VTU Belagavi.



A.P.S. College of Engineering, Bangalore - 560 082.
CALENDAR OF EVENTS FOR THE ACADEMIC YEAR 2021-22 (ODD SEMESTER) - III, V and VII Semester B.E. Classes

DAY	D/T	OCTOBER	D/T	NOVEMBER	D/T	DECEMBER	D/T	JANUARY	D/T	FEBRUARY	D/T	MARCH	D/T	APRIL
MON				1 H - Kannada Rajyotsava										
TUE				2										
WED				3 H - Naraka Chaturdashi	1									
THUR				4	2									
FRI	1	Commencement of 5th & 7th Sem Classes		5 H - Balipadyami	3									
SAT		H - Gandhi Jayanthi		Holiday		Holiday		Holiday		Holiday		Holiday		Commencement of 6th & 8th sem classes
SUN														Holiday
MON	4													
TUE	5				6		3							
WED	6	H - Mahalaya Amavasya	10		7		4							
THUR	7				8		5							
FRI	8				9		6							
SAT	9				10		7							
SUN	10				11		8							Commencement of 4th sem classes
MON	11				12		9							
TUE	12				13		10							
WED	13				14		11							
THUR	14	H - Ayudha Pooja	15		15		12							
FRI	15	H - Vijaya Dashami	16		16		13							
SAT	16	Holiday	17		17		14							
SUN	17				18		15							
MON	18	Commencement of 3rd Sem Classes	22 H - Kanakadasa Jayanthi	20	Second IA For 5th & 7th Sem	17				21	Practical Exam Starts for 3rd Sem	21	21	
TUE	19	H - Eid Milad	23	21		18				22		22		
WED	20	H - Valmiki Jayanthi	24	22		19				23		23		
THUR	21			25	First LA For 3rd Sem (NEP Program on 27 th Nov 2021)	23	20			24		24		
FRI	22			26		24	21			25	Practical Exam Ends for 3rd, 5th, and 7th Sem	25	25	
SAT	23			27		25	H - Christmas	22		26		26		
SUN	24			28		26				27		27		
MON	25			29		27				28		28		
TUE	26			30		28				29		29		
WED	27					29				30		30		
THUR	28					30				31				
FRI	29					31								
SAT	30													
SUN	31													
MON														

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*College
Calendar
2021-22 odd*



A.P.S. College of Engineering, Bangalore - 560 082.
CALENDAR OF EVENTS FOR THE ACADEMIC YEAR 2021-22 (ODD SEMESTER) - I Semester B.E. Classes

DAY	D/t	DECEMBER	D/t	JANUARY	D/t	FEBRUARY	D/t	MARCH	D/t	APRIL	D/t	MAY
SUN												
MON												
TUE						1					1	
WED	1					2					2	Internship
THUR	2					3					3	Basaveshwara Jayanthi
FRI	3					4						
SAT	4			1		4			1	Commencement of practical exams	6	
SUN	5		2			5			2	Chandramana Ugadi	7	
MON	6		3		6	6			3		8	
TUE	7		4		7	7			4		9	
WED	8		5		8	8			5		10	
THUR	9		6		10	9			6		11	
FRI	10		7		11	10			7		12	
SAT	11		8		12	11			8		13	
SUN	12		9		13	12			9		14	
MON	13		10		14	13			10		15	
TUE	14	INDUCTION PROGRAMME	11		14				11	Commencement of theory exams	16	Commencement of second semester classes
WED	15		12		15	15			12		17	
THUR	16		13		16	16			13		18	
FRI	17		14		17	17			14	Dr. Ambedkar Jayanti/Mahaveera Jayanthi	19	
SAT	18		15	Makara Sankranti	18	18			15	Good Friday	20	
SUN	19		16		19	19			16	*	21	
MON	20	Inauguration of 1st year B.E. classes	17		21	21			17		22	
TUE	21	INDUCTION PROGRAMME	18		22	22			18		23	
WED	22		19		23	23			19		24	
THUR	23		20		24	24			20		25	
FRI	24		21		25	25			21		26	
SAT	25		22		26	26			22		27	
SUN	26		23		27	27			23		28	
MON	27	Commencement of 1st Sem Classes	24		28	28			24		29	
TUE	28		25			29			25		30	
WED	29		26	Republic Day			30	Last working day for I Sem.	27		31	
THUR	30		27				31		28			
FRI	31		28						29			
SAT			29						30			
SUN			30									
MON			31									

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 Bangalore-560 082



ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ

“ರಾಷ್ಟ್ರೀಯ ಶಿಕ್ಷಣ ಮತ್ತು ವೈಜ್ಯಾತಿಕ ಕಾರ್ಯಕ್ರಮಗಳ ಸಾಫ್ಟ್‌ವರ್ಡ್ ರಾಜ್ಯ ವಿಶ್ವವಿದ್ಯಾಲಯ
“ಜ್ಞಾನ ಸಂಗಮ”, ಬೆಳಗಾವಿ-೫೯೦೦೧೮, ಕರ್ನಾಟಕ, ಭಾರತ

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Ref: VTU/BGM/BOS/A9/2021-22 /254

Date: **E 3 JUN 2022**

NOTIFICATION

Subject: -Academic Calendar of 2nd semesters of B.E./B.Tech./B.Plan/B.Arch programs of University regarding...

Reference:

- Academic Calendar 2022-23 of AICTE dated 26.03.2022
- Dean Engineering Approval Dated 02.06.2022
- Hon'ble Vice-Chancellor's approval dated: 03.06.2022

The academic calendar concerned to 2ndsemester of the B.E./B.Tech./B.Plan/B.Arch programs of University are hereby notified as;

Events	II semester B.E./B.Tech.	II Semester B.Plan./B.Arch.
Commencement of 2 nd Semester	06.06.2022	06.06.2022
Last Working day of the 2 nd Semester	31.08.2022	31.08.2022
Practical/Viva Examination	02.09.2022 To 09.09.2022	02.09.2022 To 09.09.2022
Theory Examinations	12.09.2022 To 30.09.2022	12.09.2022 To 30.09.2022
Intra/Inter Internship	01.10.2022 To 20.10.2022	----
Commencement of 3 rd Semester	25.10.2022	25.10.2022

Please Note:

- The academic sessions for the 2nd semester should commence from the **dates mentioned** above.
- The Institute needs to function for six days a week with additional hours (Saturday is a full working day). If required college can also plan to have **extra classes** on Sunday to complete the requisite hours of teaching and learning of courses as per the scheme.
- The faculty/staff shall be available to undertake any work assigned by the university.

/



A P S College of Engineering, Bangalore - 560 082

Calender of Events 2021-22 (Even Sem) - II Semester B.E. Classes wef 6-6-2022



DAY	D/t	JUNE	D/t	JULY	D/t	AUGUST	D/t	SEPTEMBER	D/t	OCTOBER	D/t	NOVEMBER
SUN												
MON						1						
TUE						2						
WED	1					3					1	
THUR	2					4			1		2	
FRI	3			1			5				4	
SAT	4	Holiday	2	Holiday	6	Holiday	3	Holiday	1	Intra / Inter Internship stats	5	
SUN	5		3		7		4		2		6	Holiday
MON	6	Commencement of 2nd Sem Classes	4		8		5		3		7	
TUE	7		5		9	H - Last day of Moharam	6		4	Ayudha pooja / Vijayadasami	8	
WED	8		6		10		7		5		9	
THUR	9		7		11		8		6		10	
FRI	10		8		12		9		7		11	
SAT	11		9		13		10		8		12	
SUN	12		10		14		11		9		13	
MON	13		11		15	Independence day	12	Theory examination starts for 2nd sem.	10		14	
TUE	14		12		16		13		11		15	
WED	15		13		17		14		12		16	
THUR	16		14		18		15		13		17	
FRI	17		15		19		16		14		18	
SAT	18	Holiday	16	Holiday	20	Holiday	17	Holiday	15		19	Holiday
SUN	19		17		21		18		16		20	
MON	20	Sports & Cultural Day	18		22		19		17		21	
TUE	21	Sports & Cultural Day	19		23		20		18		22	
WED	22	Sports & Cultural Day	20		24		21		19		23	
THUR	23	Sports & Cultural Day	21		25		22		20	Intra / Inter Internship ends	24	
FRI	24	Sports & Cultural Day	22		26		23		21		25	
SAT	25	College day	23		27		24		22		26	
SUN	26		24		28		25		23		27	
MON	27		25		29	Third I.A for 2nd Sem	26		24		28	
TUE	28		26		30		27		25	Commencement of 3rd Sem Classes	29	
WED	29		27		31	Last working day Varasiddhi Vinayaka Vrata	28		26		30	
THUR	30		28				29		27			
FRI			29				30		28			
SAT			30						29			
SUN			31						30			

A.G. Reddy
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A.P.S. College of Engineering
Bangalore-560 082



ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ

ವಿಶಾಯ ಅಧಿನಿಯಮ್ ೧೯೬೪ರ ಅಡಿಯಲ್ಲಿ ಕರ್ನಾಟಕ ಸರ್ಕಾರದಿಂದ ಸ್ಥಾಪಿತವಾದ ರಾಜ್ಯ ವಿಶ್ವವಿದ್ಯಾಲಯ
“ಜ್ಞಾನ ಸಂಗಮ” ಮಂಡಿ, ಬೆಳಗಾವಿ-೫೯೦೦೧೮, www.vtu.ac.in

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Ref. No. VTU/BGM/BOS/2021-22/ **Q34**

Date: **10 MAY 2022**

Revised-NOTIFICATION

Subject: - Revised Academic Calendar of IV semester B.E./B.Tech., programs of University regarding...

Reference:

1. Hon'ble Vice-Chancellor's approval dated: 05.05.2022
2. VTU/BGM/BOS/2021-22/709, dated 29.04.2022
3. VTU/Exam/2022-2023110, dated 01.05.2022
4. VTU/Exam/QPDS/2022-23/114, dated 01.05.2022

The revised academic calendar concerned **IV semester B.E./B.Tech.**, programs of University are hereby notified as below-

Events	Existing dates	Revised Dates
Commencement of EVEN Semester	16.05.2022	23.05.2022
Last Working day of the EVEN Semester	27.08.2022	03.09.2022
	01.09.2022	05.09.2022
Practical/Viva Examination	To 08.09.2022	To 13.09.2022
	12.09.2022	16.09.2022
Theory Examinations	To 30.09.2022	To 08.10.2022
Commencement of next ODD Semester	10.10.2022	10.10.2022

The Principals of Affiliated, Constituent and Autonomous Engineering Colleges are hereby informed to bring the academic calendar to the notice of all concerned.

Sd/-
REGISTRAR

To,

1. The Principals of all affiliated/ constituent /Autonomous Engineering Colleges under the ambit of VTU Belagavi.
2. The chairperson, Department of Mechanical Engineering /Civil Engineering /Computer Science and Engineering and Business Studies of the University.



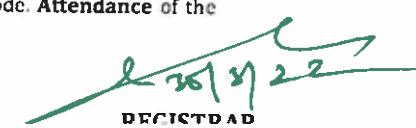
Academic Calendar for EVEN Semester of UG& PG programs for the year 2021-22

	VI semester B.E./B.Tech.	VI semester B.Arch./ B.Plan.	VIII semester B.E./B.Tech.	VIII semester B.Plan	VIII semester B.Arch	IX semester B.Arch #	IV Semester B.Arch.	IV semester B. Plan	IV semester MCA	IV semester M.Tech.	IV Semester M.Arch.	VI Semester MCA (2018 scheme)
Commencement of EVEN Semester	04.04.2022	04.04.2022	04.04.2022	04.04.2022	04.04.2022	14.02.2022	11.04.2022	11.04.2022	04.04.2022	04.04.2022	06.04.2022	04.04.2022
Last Working day of EVEN Semester	16.07.2022	16.07.2022	30.06.2022	30.06.2022	23.07.2022	10.06.2022	23.07.2022	23.07.2022	30.06.2022	30.06.2022	30.06.2022	30.06.2022
Practical/viva Examination	18.07.2022 To 29.07.2022	18.07.2022 To 29.07.2022	---	---	25.07.2022 To 30.07.2022	20.06.2022 To 22.06.2022	25.07.2022 To 30.07.2022	25.07.2022 To 30.07.2022	04.07.2022 To 09.07.2022			
Theory Examinations	01.08.2022 To 20.08.2022	01.08.2022 To 20.08.2022	04.07.2022 To 20.07.2022	04.07.2022 To 15.07.2022	01.08.2022 To 20.08.2022		01.08.2022 To 20.08.2022	01.08.2022 To 20.08.2022	11.07.2022 To 28.07.2022	20.07.2022 To 10.08.2022		
Internship	---	---	---	---	---	---	---	---	---	---	---	---
Internship Viva Voce/ Project viva	---	---	22.07.2022 To 30.07.2022	---	---	---	---	---	---	---	---	---
Summer Project / Professional training /Organization Study	---	---	---	---	---	---	---	---	---	---	---	---
Submission of the report to University	---	---	---	---	---	---	---	---	04.07.2022 To 16.07.2022	04.07.2022 To 18.07.2022	04.07.2022 To 16.07.2022	04.07.2022 To 16.07.2022
Commencement of ODD Semester	22.08.2022	22.08.2022	---	---	22.08.2022	---	22.08.2022	22.08.2022	---	---	---	---

B.Arch. X and IX semesters swapped for AY 2021-22

Please Note:

- The academic sessions for EVEN semesters should commence from the dates mentioned above.
- The Institute can plan to have extra classes before the last working day to complete the requisite hours of teaching and learning of courses as per the scheme.
- Faculty should conduct additional tutorial classes in Blended mode to solve the doubts of the students.
- The faculty/staff shall be available to undertake any work assigned by the university.
- Notification regarding the Calendar of Events relating to the conduct of University Examinations will be issued by the Registrar (Evaluation) from time to time.
- Academic Calendar may be modified based on guidelines/directions issued in the future by MHRD/UGC/AICTE/State Government.
- Academic Calendar is also applicable for Autonomous Colleges. In case any changes are to be effected by Autonomous Colleges in the academic terms and examination schedule, they could do so with the approval of the University.
- The college has to conduct offline classes to cover 80% of the syllabus of the courses; however, 20% of the syllabus can be covered in virtual (Online) mode. Attendance of the students for offline and online classes is mandatory and records should be maintained and submitted to the university whenever informed.



RECISTDAAD
26/07/2022



**Academic Calendar for IV sem MBA / IV semB.E./B.Tech.(Revised) VI sem
B.E./B.Tech /B.Plan., (Revised) B.E./B.Tech./B.Arch./B.Plan., and II sem B.Sc.
Programs for AY-2021-22**

	VI semester B.E./B.Tech. (Revised)	VI semester B.Plan. (Revised)	IV Semester MBA	IV semester B.E./B.Tech	II semester B.Sc.	I sem B.E./B.Tech./ B.Plan/B.Arch (Revised)
Commencement of Semester	04.04.2022	04.04.2022	09.05.2022	16.05.2022	23.05.2022	13.12.2021
Last Working day of Semester	16.07.2022	16.07.2022	20.08.2022	27.08.2022	05.09.2022	10.05.2022
Practical/Viva- Examination	18.07.2022 To 29.07.2022	18.07.2022 To 29.07.2022	---	01.09.2022 To 08.09.2022	06.09.2022 To 09.09.2022	28.05.2022 To 04.06.2022
Theory Examinations	01.08.2022 To 20.08.2022	01.08.2022 To 20.08.2022	22.08.2022 To 14.09.2022	12.09.2022 To 30.09.2022	12.09.2022 To 28.09.2022	12.05.2022 To 27.05.2022
Internship	21.08.2022 To 10.09.2022	21.08.2022 To 10.09.2022	---	---	---	
Internship Viva-Voce/ Project viva	---	---	---	---	---	
Summer Project / Professional training / Organization Study	---	---	---	---	---	
Submission of the report to University	---	---	11.07.2022 To 22.07.2022	---	---	
Commencement of NEXT Semester	19.09.2022	19.09.2022	----	10.10.2022	10.10.2022	06.06.2022

Please Note:

- The academic sessions for EVEN semesters should commence from the **dates** mentioned above.
- All the students of VI semesters B.E./B.Tech. programs have to join the VII semester after completion of their **INTERNSHIP** during the above-mentioned duration.
- **The Institute/Department shall plan to have extra classes to complete the requisite hours of teaching and learning as per the scheme.**
- Faculty should conduct additional tutorial classes in blended mode to solve the doubts of the students.



A.P.S.College of Engineering, Bangalore - 560082.

CALENDAR OF EVENTS FOR THE ACADEMIC YEAR 2021-22 (EVEN SEMESTER) - IV Semester B.E. Classes wef 23-05-2022

DAY	D/t	MAY	D/t	JUNE	D/t	JULY	D/t	AUGUST	D/t	SEPTEMBER	D/t	OCTOBER
SUN	1						1					
MON	2						2					
TUE	3	H-Basava Jayanthi					3					
WED	4		1				4					
THUR	5		2				5					
FRI	6		3		1	First IA for 4th Sem	6					
SAT	7	Holiday	4	Holiday	2	Holiday	7	Holiday	3	Last Working Day for 4th sem	1	Holiday
SUN	8		5		3		8		4		2	Gandhi Jayanthi
MON	9		6		4		9	H - Last day of Moharam	6		3	
TUE	10		7		5		10		7		4	H-Ayudha Pooja
WED	11		8		6		11		8		5	H-Vijaya Dashami
THUR	12		9		7		12		9		6	
FRI	13		10		8		13		10		7	
SAT	14		11		9		14		11		8	Theory Exam ends for 4th Semester
SUN	15		12		10		15	Independence day	12		10	Commencement of next odd semester
MON	16		13		11		16		13	Practical Exams ends for 4th Semester	11	
TUE	17		14		12		17		14		12	
WED	18		15		13		18		15		13	
THUR	19		16		14		19		16	Theory Exam starts for 4th Semester	14	
FRI	20		17		15		20	Theory Exam ends for 6th Semester	17	Holiday	15	Holiday
SAT	21	Holiday	18	Holiday	16	Holiday	21		18		16	
SUN	22		19		17		22		19		17	
MON	23	Commencement of 4th Sem Classes	20		18		23		20		18	
TUE	24		21		19		24		21		19	
WED	25		22		20		25		22		20	
THUR	26		23		21		26		23		21	
FRI	27		24		22		27		24		22	
SAT	28		25	Silver jubilee and College day	23		28		25		23	
SUN	29		26		24		29		26		24	H-Naraka Chaturdashi
MON	30		27		25		30		27		25	
TUE	31		28		26		31	H-Varasiddhi Vinayaka Vrata	28		26	H-Balipadyami
WED			29		27		32		29		27	
THUR			30		28		33		30		28	
FRI					29						29	
SAT					30	Second IA for 4th Sem						
SUN					31						30	
MON												

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A.P.S. College of Engineering, Bangalore - 560 082.

CALENDER OF EVENTS FOR THE ACADEMIC YEAR 2021-22 (EVEN SEMESTER) - VI and VIII Semester B.E. Classes

DAY	D/T	APRIL	D/T	MAY	D/T	JUNE	D/T	JULY	D/T	AUGUST	D/T	SEPTEMBER
SUN			1						1	Theory Exam Starts for 6th Semester		
MON			2						2			
TUE			3	H-Basava Jayanthi					3			
WED			4		1	Second IA for 6th and 8th Sem			4		1	
THUR			5	First IA for 6th and 8th Sem	2			1	Third IA for 6th and 8th Sem	5	2	
FRI	1		6		3			2	Holiday	6	Holiday	3
SAT	2	H - Ugadi Festival	7	Holiday	4	Holiday	5	3		7		4
SUN	3		8		5			4	Theory Exams Starts for 8th Semester	8		5
MON	4	Commencement of 6th & 8th Sem Classes	9		6			5		9	H - Last day of Moharam	6
TUE	5		10		7			6		10		7
WED	6		11		8			7		11		8
THUR	7		12		9			8		12		9
FRI	8		13		10			9		13		10
SAT	9		14		11			10		14		11
SUN	10		15		12			11		15	Independence day	12
MON	11		16		13			12		16		13
TUE	12		17		14			13		17		14
WED	13		18		15			14		18		15
THUR	14	H-Dr.Ambedkar Jayanthi /Mahaveera Jayanthi	19		16			15		19		16
FRI	15	H-Good Friday	20		17			16		20	Theory Exam ends for 6th Semester	17
SAT	16	Holiday	21	Holiday	18	Holiday	19	16	Last Working Day for 6th sem	21	Holiday	18
SUN	17		22		19		17	18	Practical Exams Starts for 6th Semester	22	Commencement of Odd Sem Classes	19
MON	18		23		20			19		23		20
TUE	19		24		21			20	Theory Exams ends for 8th Semester	24		21
WED	20		25		22			21		25		22
THUR	21		26		23			22	Internship Viva-Voce/Project Viva starts for 8th sem	26		23
FRI	22		27		24			23		27		24
SAT	23		28		25			24		28		25
SUN	24		29		26			25		29		26
MON	25		30	Second IA for 6th and 8th Sem	27			26		30		27
TUE	26		31		28			27		31	Varasiddhi Vinayaka Vrata	28
WED	27				29	Third IA for 6th and 8th Sem (June 30th-Last Working Day for 8th sem)	30	27				29
THUR	28							28				
FRI	29							29	Practical Exams ends for 6th Semester			30
SAT	30							30	Internship Viva-Voce/Project Viva ends for 8th sem			
SUN								31				
MON												

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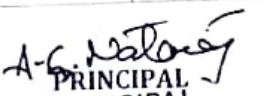
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CALENDAR OF EVENTS FOR THE ACADEMIC YEAR 2021-22 (ODD SEMESTER) - III, V and VII Semester B.E. Classes

DAY	D/t	OCTOBER	D/t	NOVEMBER	D/t	DECEMBER	D/t	JANUARY	D/t	FEBRUARY	D/t	MARCH	D/t	APRIL
SUN														
MON			1	H - Kannada Rajyotsava						Practical Exam Starts for 5th & 7th Sem from 1st February				
TUE			2						1	Third IA For 3rd Sem	1		1	
WED			3	H - Naraka Chaturdashi	1				2		2		2	
THUR			4		2				3		3		3	
FRI	1	Commencement of 5th & 7th Sem Classes	5	H - Balipadyami	1				4		4	Practical Exam Ends for 3rd Sem	6	Commencement of 6th & 8th sem classes
SAT	2	H - Gandhi Jayanthi	6	Holiday	4	Holiday	1	Holiday	5	Holiday	5	Holiday	5	Holiday
SUN	3		7		5		2		6		6		6	
MON	4		8		6		3		7		7	Theory Exam Starts for 3rd Sem	7	
TUE	5		9		7		4		8		8		8	
WED	6	H - Mahalaya Amavasya	10		8		5		9		9		9	
THUR	7		11		9		6		10	Practical Exam Ends for 5th & 7th Sem	10		10	
FRI	8		12		10		7		11	Theory Exam Starts for 5th & 7th Sem	11		11	Commencement of 4th sem classes
SAT	9		13		11		8		12		12		12	
SUN	10		14		12		9		13		13		13	
MON	11		15		13		10		14		14		14	
TUE	12		16	First IA For 5th & 7th Sem	14		11		15	Finalization of IA for 3rd sem	15		15	
WED	13		17		15		12		16		16		16	
THUR	14	H - Ayudha Pooja	18		16		13		17	Last working day for 3rd Sem	17		17	
FRI	15	H - Vijaya Dashami	19		17		14		18		18		18	
SAT	16	Holiday	20	Holiday	18	Holiday	15	Holiday	19	Holiday	19	Holiday	19	Holiday
SUN	17		21		19		16		20		20		20	
MON	18	Commencement of 3rd Sem Classes	22	H - Kanakadasa Jayanthi	20		17		21	Practical Exam Starts for 3rd Sem	21		21	
TUE	19	H - Eid Milad	23		21	Second IA For 5th & 7th Sem	18		22		22		22	
WED	20	H - Valmiki Jayanthi	24		22		19		23		23		23	
THUR	21		25	First IA For 3rd Sem	23		20	Third IA For 5th & 7th Sem	24		24		24	
FRI	22		26	(NEP Program on 27 th Nov 2021)	24		21	(NEP Program on 22 nd Jan 2022)	25		25	Theory Exam Ends for 3rd, 5th, and 7th Sem	25	
SAT	23		27		25	H - Christmas	22		26		26		26	
SUN	24		28		26		23		27		27		27	
MON	25		29		27		24		28		28		28	
TUE	26		30		28		25		29		29		29	
WED	27				29		26	H - Republic Day	30		30		30	
THUR	28				30		27	Finalization of IA for 5th & 7th Sem	31		31			
FRI	29				31		28							
SAT	30						29							
SUN	31						30							
MON							31	Last Working Day for 5th and 7th sem						


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CALENDAR OF EVENTS FOR THE ACADEMIC YEAR 2021-22 (ODD SEMESTER) - I Semester B.E. Classes

DAY	D/I	DECEMBER	D/R	JANUARY	D/I	FEBRUARY	D/I	MARCH	D/I	APRIL	D/I	MAY
SUN												
MON												
TUE												
WED	1				1		1				1	
THUR	2				2		2				2	Internship
FRI	3				3		3				3	Basaveshwara Jayanthi
SAT	4				4		4				4	
SUN	5			1	5		5		1	Commencement of practical exams	6	
MON	6		2	3	6		6		2	Chandramana Ugadi	7	
TUE	7		4	5	7		7		4		8	
WED	8		6	8	8		8		5		9	
THUR	9			9				9		6		10
FRI	10			10				10		7		11
SAT	11			11				11		8		12
SUN	12			12				12		9		13
MON	13			13				13		10		14
TUE	14											15
WED	15	INDUCTION PROGRAMME							11	Commencement of theory exams	16	Commencement of second semester classes
THUR	16							14				17
FRI	17							15				18
SAT	18							16				19
SUN	19							17				20
MON	20		Inauguration of 1st year B.E. classes					18				21
TUE	21							19				22
WED	22	INDUCTION PROGRAMME						20				23
THUR	23							21				24
FRI	24							22				25
SAT	25		Christmas					23				26
SUN	26							24				27
MON	27		Commencement of 1st Sem Classes					25				28
TUE	28							26				29
WED	29							27				30
THUR	30							28				31
FRI	31							29				
SAT								30				
SUN												
MON												

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CALENDAR OF EVENTS FOR THE ACADEMIC YEAR 2021-22 (ODD SEMESTER) - I Semester B.E. Classes

DEPARTMENT OF BASIC SCIENCE

DAY	D/A	DECEMBER	D/A	JANUARY	D/A	FEBRUARY	D/A	MARCH	D/A	APRIL	D/A	MAY
SUN												
MON												
TUE												
WED	1				1			1		1		
THUR	2				2			2		2		Internship
FRI	3				3			3		3		Basaveshwara Jayanthi
SAT	4				4			4		4		
SUN	5				5			5		5		
MON	6				6			6		6		
TUE	7				7			7		7		
WED	8				8			8		8		
THUR	9				9			9		9		
FRI	10				10			10		10		
SAT	11				11			11		11		
SUN	12				12			12		12		
MON	13				13			13		13		
TUE	14				14			14		14		
WED	15				15			15		15		
THUR	16				16			16		16		
FRI	17				17			17		17		
SAT	18				18			18		18		
SUN	19				19			19		19		
MON	20				20			20		20		
TUE	21				21			21		21		
WED	22				22			22		22		
THUR	23				23			23		23		
FRI	24				24			24		24		
SAT	25				25			25		25		
SUN	26				26			26		26		
MON	27				27			27		27		
TUE	28				28			28		28		
WED	29							29		29		
THUR	30							30		30		
FRI	31							31		31		
SAT												
SUN												
MON												

First year coordinator

1st Year Co-ord. 2021
A.P.S. College of Engineering
100% Deemed to be University

A.G. Nadeem

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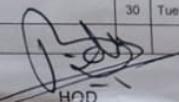


APS College Of Engineering
Somanahalli, Bangalore-560082



ISEDepartment Calendar of Events for the Academic Year 2021-22 (Odd Semester)

October 2021		November 2021		December 2021		January 2022		February 2022		March 2022		April 2022	
1 Fri	Commencement of 5 th & 7 th Sem Classes	1 Mon	H-Kannada Rajyothsava	1 Wed		1 Sat	Holiday	1 Tue	Practical Exam Starts for 5 th & 7 th Sem Third IA for 3 rd Sem	1 Tue		1 Fri	
2 Sat	H-Gandhi Jayanthi	2 Tue		2 Thu		2 Sun		2 Wed		2 Wed		2 Sat	Holiday
3 Sun		3 Wed	H-Naraka Chaturdashi	3 Fri		3 Mon		3 Thu	Third IA for 3 rd Sem	3 Thu		3 Sun	
4 Mon		4 Thu		4 Sat	Holiday	4 Tue		4 Fri		4 Fri	Practical Exam Ends for 3 rd Sem	4 Mon	Commencement of 6 th & 8 th sem classes
5 Tue		5 Fri	H- Balipadyami	5 Sun		5 Wed		5 Sat	Holiday	5 Sat	Holiday	5 Tue	
6 Wed	H-Mahalaya Amavasya	6 Sat	Holiday	6 Mon		6 Thu		6 Sun		6 Sun		6 Wed	
7 Thu		7 Sun		7 Tue		7 Fri		7 Mon		7 Mon	Theory Exam Starts for 3 rd Sem	7 Thu	
8 Fri		8 Mon		8 Wed		8 Sat		8 Tue		8 Tue		8 Fri	
9 Sat		9 Tue		9 Thu		9 Sun		9 Wed		9 Wed		9 Sat	
10 Sun		10 Wed		10 Fri	Guest Lecturer on ATC By Prof. Mithun B N Christ University	10 Mon		10 Thu	Practical Exam Ends for 5 th & 7 th Sem	10 Thu		10 Sun	
11 Mon		11 Thu		11 Sat	Hands on IOS Development By Apple Education	11 Tue		11 Fri	Theory Exam Starts for 5 th & 7 th Sem	11 Fri		11 Mon	Commencement of 4 th sem classes
12 Tue		12 Fri		12 Sun		12 Wed		12 Sat		12 Sat		12 Tue	
13 Wed		13 Sat		13 Mon		13 Thu		13 Sun		13 Sun		13 Wed	
14 Thu	H-Ayudha Pooja	14 Sun		14 Tue		14 Fri		14 Mon		14 Mon		14 Thu	
15 Fri	H-Vijaya Dashami	15 Mon	First IA for 5 th & 7 th Sem	15 Wed		15 Sat	Holiday	15 Tue	Finalization of IA for 3 rd Sem	15 Tue		15 Fri	
16 Sat	Holiday	16 Tue		16 Thu		16 Sun		16 Wed		16 Wed		16 Sat	Holiday
17 Sun		17 Wed		17 Fri		17 Mon		17 Thu		17 Thu		17 Sun	
18 Mon	Holiday	18 Thu		4 Sat	Holiday	18 Tue		18 Fri	Last Working Day for 3 rd Sem	18 Fri		18 Mon	
19 Tue	H- Eid Milad	19 Fri	19 Sun		19 Wed		5 Sat	Holiday	19 Sat	Holiday	19 Tue		
20 Wed	H-Valmiki Jayanthi	20 Sat	Holiday	20 Mon	Second IA For 5 th & 7 th Sem NEP Program on 22 nd	20 Thu	Third IA for 5 th & 7 th Sem NEP Program on 22 nd	20 Sun		20 Sun		20 Wed	
21 Thu	Commencement of 3 rd Sem Classes	21 Sun	21 Tue	21 Fri		21 Mon		Practical Exam Starts for 3 rd Sem	21 Mon		21 Thu		
22 Fri		22 Mon	H-Kanakadas Jayanthi	22 Wed		22 Sat		22 Tue		22 Tue		22 Fri	
23 Sat		23 Tue		23 Thu		23 Sun		23 Wed		23 Wed		23 Sat	
24 Sun		24 Wed		24 Fri		24 Mon		24 Thu		24 Thu		24 Sun	
25 Mon		25 Thu	First IA for 3rd Sem Seminar on Ios Development by Apple Education	25 Sat	H-Christmas	25 Tue		25 Fri		25 Fri	Theory Exam ends for 3 rd 5 th & 7 th Sem	25 Mon	
26 Tue		26 Fri	First IA for 3rd Sem	26 Sun		26 Wed	H-Republic Day	26 Sat		26 Sat		26 Tue	
27 Wed		27 Sat	First IA for 3rd Sem NEP Program	27 Mon	Second IA for 3rd Sem	27 Thu	Finalization of IA for 5 th & 7 th Sem	27 Sun		27 Sun		27 Wed	
28 Thu		28 Sun		28 Tue		28 Fri		28 Mon		28 Mon		28 Thu	
29 Fri		29 Mon		29 Wed		29 Sat				29 Tue		29 Fri	
30 Sat		30 Tue		30 Thu		30 Sun				30 Wed		30 Sat	
31 Sun				31 Fri		31 Mon	Last Working Day for 5 th & 7 th Sem			31 Thu			


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PRINCIPAL 27/11/2021



APS College of Engineering

Department of Basic Science

Ref. No. APSCE/BS/SUB.ALLOT/2021-22-ODD/

Date: 06/12/2021

Dear Prof. Shobha N.C.

Sub: Subject allotment for the odd semester of academic year
2021-22.

Ref: Faculty meeting held on 06/12/2021

With reference to the above cited subject based on the options given by you and in the faculty meeting, the following courses (Theory & Practical) have been allotted to you.

Sl. No.	Subject with code	Semester
1	Engineering Physics 21PHY12	I Sec. A
2	Engineering Physics Lab 21PHYL16	I Sec. A
3	Communicative English 21EGH18	I Sec. A
4	Communicative English 21EGH18	I Sec. B

You are, therefore, hereby informed to update and keep course material, lesson planning and prepare well for effective delivery of courses allotted to you from the day of reopening.

Mrs. S.T.
First year coordinator
1st Year Co-ordinator
APS College of Engineering
Somanahalli, Bangalore - 82.



APS College of Engineering

Department of Basic Science

Ref. No. APSCE/BS/SUB.ALLOT/2021-22-ODD/

Date: 06/12/2021

Dear Prof. D.R. Bharathadevi

Sub: Subject allotment for the odd semester of academic year
2021-22.

Ref: Faculty meeting held on 06/12/2021

With reference to the above cited subject based on the options given by you and in the faculty meeting, the following courses (Theory & Practical) have been allotted to you.

Sl. No.	Subject with code	Semester
1	Engineering Chemistry 21CHE12	I Sec. B
2	Engineering Chemistry Lab 21CHEL16	I Sec. B

You are, therefore, hereby informed to update and keep course material, lesson planning and prepare well for effective delivery of courses allotted to you from the day of reopening.

Naveen S.T.
First year coordinator
1st Year Co-ordinator
APS College of Engineering
Somanahalli, Bangalore - 82



APS College of Engineering

Department of Basic Science

Ref. No. APSCE/BS/SUB.ALLOT/2021-22-ODD/

Date: 11/10/2021

Dear Prof. D.R. Bharathadevi

Sub: Subject allotment for the odd semester of academic year
2021-22.

Ref: Faculty meeting held on 11/10/2021

With reference to the above cited subject based on the options given by you and in the faculty meeting, the following courses (Theory & Practical) have been allotted to you.

Sl. No.	Subject with code	Semester
1	Kannada 18KAK49 & 18KVK49	III ECE
2	Kannada 18KAK49 & 18KVK49	III CE

You are, therefore, hereby informed to update and keep course material, lesson planning and prepare well for effective delivery of courses allotted to you from the day of reopening.

Neele S. J.
First year coordinator
1st Year Co-ordinator
APS College of Engineering
Somanahalli, Bangalore - 82.



APS College of Engineering

Department of Basic Science

Ref. No. APSCE/CSE/Sub.Allot/2021-22-ODD

Date: 06/12/2021

Dear Prof. K S Anand

Sub: Subject allotment for the odd semester of academic year 2021-22

Ref: Faculty meeting held on 06/12/2021

With reference to the above cited subject based on the options given by you and in the faculty meeting, the following courses have been allotted to you.

Sl. No.	Subject with code	Semester
1	Calculus and Differential Equations (21MAT11)	I Sem BSec

You are, therefore, hereby informed to update and keep course material, lesson planning and prepare well for effective delivery of courses allotted to you from the day of reopening.

Neesar.
HoD/ First year coordinator



APS College of Engineering

Department of Basic Science

Ref. No. APSCE/CSE/Sub.Allot/2021-22-ODD

Date: 13/09/2021

Dear Prof. K S Anand

Sub: Subject allotment for the odd semester of academic year 2021-22
Ref: Faculty meeting held on 13/09/2021

With reference to the above cited subject based on the options given by you and in the faculty meeting, the following courses have been allotted to you.

Sl. No.	Subject with code	Semester
1	Transform Calculus, Fourier Series & Numerical Techniques (18MAT31)	III CSE
2	Transform Calculus, Fourier Series & Numerical Techniques (18MAT31)	III ECE *
3	Discrete Mathematical Structures (18CS36)	III ISE

(* Subject shared with Prof. KRS)

You are, therefore, hereby informed to update and keep course material, lesson planning and prepare well for effective delivery of courses allotted to you from the day of reopening.

HoD/ First year coordinator



A.P.S. College of Engineering, Somanahalli, Bangalore - 82.
First Semester B.E. Time Table for the Year 2021 – 2022 W.E.F. 27.12.2021

Section: A

Room No.: MEI.41901

DAY	9.00 To 9.50	9.50 To 10.40	10.40 To 11.00	11.00 To 11.50	11.50 To 12.40	12.40 To 1.20	1.20 To 2.10	2.10 To 3.00	3.00 To 3.50
Monday	EV Theory (AH)		T	PHY (STK)	MAT (KRS)	L	PHYL / B1(STK+NCS)	ELEL / B2(ECE)	EVL / B3(ME)
Tuesday	MAT (KRS)	PHY (NCS)	A	ELE (VR)	CIV (AM)	U	CIV (AM)	EV Theory (AH)	
Wednesday	ELE (VR)	ENG (NCS)	B	MAT (KRS)	PHY (STK)	N	PHYL / B2(STK+NCS)	ELEL / B3(ECE)	EVL / B4(ME)
Thursday	CIV (AM)	MAT (KRS)	R	EV Theory (AH)		E	PHYL / B3(STK+NCS)	ELEL / B4(ECE)	EVL / B5(ME)
Friday	ENG (NCS)	PHYL / B4(STK+NCS)		ELEL / B1(ECE)	EVL / B2(ME)	A	CIV (AM)	IDT (BIDK)	ELE (VR)
Saturday	PHY (STK)	ENG (NCS)	K	ELE (VR)	Tutorial Class	Tutorial Class /Sports & Cultural activities			

STK – Dr. S.T. Kumar
AM – A. Muralidhar

AH – Dr. A. Hareesh NCS – Dr. Shobha N.C. KRS – K.R. Sridhar
BIDK – Dr. B. I. D. Kumar VR – Vidya Rani

Class Teacher: Dr. Shobha N.C

Shankar B.
TTO

First Year Coordinator

A.G. Narayana
Principal
PRINCIPAL
A.P.S. College of Engineering
Bangalore-560 071



A.P.S. College of Engineering, Somanahalli, Bangalore – 82.
First Semester I.E. Time Table for the Year 2021 – 2022 W.E.F. 27.12.2021

Section: B

Room No.: MELH002

DAY	9.00 To 9.50	9.50 To 10.40	10.40 To 11.00	11.00 To 11.50	11.50 To 12.40	12.40 To 1.20	1.20 To 2.10	2.10 To 3.00	3.00 To 3.50
Monday	PSP (SS)	ELN (VR)	T E A B R E A K	EME (KB)	ENG (NCS)	L U N C H B R E A K	← CHEL(DRB) / CPL(CSE) B1 B2 →		
Tuesday	ELN (VR)	CHE (DRB)		PSP (SS)	MAT (KSA)		- - -	- - -	- - -
Wednesday	MAT (KSA)	EME (KB)		CHE (DRB)	ELN (VR)		← CHEL(DRB) / CPL(ISE) B2 B3 →		
Thursday	CHE (DRB)	ELN (VR)		ENG (NCS)	MAT (KSA)		- - -	- - -	- - -
Friday	EME (KB)	PSP (SS)		CHE (DRB)	MAT (KSA)		← CHEL(DRB) / CPL(ISE) B3 B1 →		
Saturday	PSP (SS)	EME (KB)		ENG (NCS)	SFH		Tutorial Class /Sports & Cultural activities		

KSA – K.S.Anand
KB – K. Bommanna

DRB – D.R. Bharathadevi
SS – Sushmitha Suresh

NCS – Dr. Shobha N.C.
VR – Vidya Rani

Class Teacher: D.R. Bharathadevi

[Signature]
First Year Coordinator
1st Year Co-ordinator
APS College of Engineering
Somanahalli, Bangalore - 82.

[Signature]
A.G. Nadaraj
PRINCIPAL
A.P.S. College of Engineering
Bangalore-560 062

[Signature]
TTO



APS College of Engineering

Department of Basic Science

Faculty Time table for the academic year 2021-22 (Odd Semester)

Faculty Name: Dr. Shobha N.C.

Semester: I

Day/Time	9.00to 9.50 a.m.	9.50 to 10.40 a.m.		11.00 to 11.50 a.m.	11.50 to 12.40 p.m.		1.20 to 2.10 p.m.	2.10 to 3.00 p.m.	3.00 to 3.50 p.m.
MON						ENG-I (B)			
TUE			PHY (A)						
WED			ENG-I (A)						
THU					ENG-I (B)				
FRI	ENG-I (A)			PHYL (NCS+STK) B4Batch					
SAT			ENG-I (A)		ENG-I (B)				

Work Load:

Theory (Physics) : $(1 \times 2) = 2$

Theory (English) : $(6 \times 2) = 12$

Practical : $(4 \times 3) = 12$

Other load : $= 14$

(Coordinator (SC/ST/OBC Cell), Result analysis, Placement, Class teacher, Parents' Meeting, Disciplinary Comm., NAAC, Induction programme, First year handbook, Mentor's work, NSS, Students Monitoring, and Lab In-charge.
Total : $= 40$

(TTO)

HOD

(PRINCIPAL)



APS College of Engineering

Department of Basic Science

Faculty Time table for the academic year 2021-22 (Odd Semester)

Faculty Name: D.R. Bharathadevi

Semester: I & III

Day/Time	9.00to 9.50 a.m.	9.50 to 10.40 a.m.	11.00 to 11.50 a.m.	11.50 to 12.40 p.m.	1.20 to 2.10 p.m.	2.10 to 3.00 p.m.	3.00 to 3.50 p.m.
MON						CHEL(DRB) B1Batch	
TUE		1 CHE				III KAN	III KAN
WED			1 CHE			CHEL(DRB) B2Batch	
THU	1 CHE					CHEL(DRB) B3Batch	
FRI			1 CHE				
SAT							

Work Load: Theory ((Chemistry) : $(4 \times 2) = 8$

Theory (Kannada) : $(2 \times 2) = 4$

Practical : $(3 \times 3) = 9$

Other load : $= 15$

(HOD , Coordinator (Anti sexual harassment, NAAC), Induction programme, LIC/AICTE, Time table In charge, Class teacher, Parents' Meeting, Disciplinary Comm., Result analysis, Mentor's work, Ladies hostel in-charge)

Total : $= 36$

JL
(TTO)

revised
(HOD)

DR
(PRINCIPAL)



APS College of Engineering

Department of Basic Science

Faculty Time table for the academic year 2021-22 (Odd Semester)

Faculty Name: K S Anand

Semester: I & III

Day/Time	9.00to 9.50 a.m.	9.50 to 10.40 a.m.	11.00 to 11.50 a.m.	11.50 to 12.40 p.m.	1.20 to 2.10 p.m.	2.10 to 3.00 p.m.	3.00 to 3.50 p.m.
MON	III ECE	III ECE	III CSE				
TUE	III ISE	III CSE		IB Sec			
WED	IB Sec		III CSE				
THU	III CSE	III ISE		IB Sec			
FRI		III ISE		IB Sec			
SAT		III ISE					

Work Load: Theory : (14X2) = 28

Other load : = 6

(Internal Test Comm, Parents' Meeting, Disciplinary Comm., NAAC, Mentor's work)

Total : 34

(TTO)

(HOD)

A. S. Narayang
(PRINCIPAL)

A P S College of Engineering, Somanahalli, Bangalore-82

DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING

Time Table for the Year 2021-22(Odd Semester)

SEM:III CT: SBS

Room No- CI201

Days	9:00- 9.50	9.50 - 10.40	10 :40- 11:00	11:00 - 11:50	11:50- 12.40	12:40- 1.20	1.20 - 2:10	2:10 - 3:00	3:00 - 3:50
Monday	CO SBS	SE SKN	B	ADE RPV	DS VVP	L	Tutorial		
Tuesday	DMS KSA	DS VVP		CO SBS	SE SKN		Department Forum Activity		
Wednesday	ADE RPV	DS VVP	R	SE SKN	CO SBS	U	DS LAB (RPV+VVP+KKB)		
Thursday	DS VVP	SE SKN	A	DMS KSA	M3 KRS		M3 KRS	CPC AR	
Friday	ADE RPV	DMS KSA	K	M3 KRS	CO SBS	H	ADE Lab (RPV+VVP+KKB)		
Saturday	M3 KRS	DMS KSA		SE SKN	ADE RPV		Mentoring and co circular activity		

Engineering Mathematics-III

K R Sridhara (KRS)

Analog and Digital

Ramya P V (RPV)+ Vidya V Patil (VVP)+

Analog and Digital Electronics

Ramya P V(RPV)

Electronics Lab

Kavyashree K B(KKB)

Data Structures and Applications

Vidya V Patil (VVP)

Data Structures

Vidya V Patil (VVP)+Kavyashree K B(KKB) +

Computer Organization

Shruthi B S (SBS)

Constitution of India

Ramya P V (RPV)

Software Engineering

Shravya S(SS)

Professional Ethics

Anitha R

Discrete Mathematical Structures

K S Anand (KSA)

& Cyber Law

Time Table Coordinator



Principal

PRINCIPAL
A.I.B.S. College of Engineering
Bangalore-560 082

A P S College of Engineering, Somanahalli, Bangalore-82

DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING

Time Table for the Year 2021-22(Odd Semester)

SEM: V CT: PHB

Room No- CI202

Days	9:00- 9.50	9.50 - 10.40	10 :40- 11:00	11:00 - 11:50	11:50- 12.40	12:40- 1.20	1.20 - 2:10	2:10 - 3:00	3:00 - 3:50		
Monday	UNIX PHB	ATC VVP	B R E A K	CN SBS	ME BIDK	L U N C H	<-----CN Lab(B1)----->				
Tuesday	CN SBS	ME BIDK		ATC VVP	ADP SBN		<-----DBMS Lab(B2)----->				
Wednesday	DBMS SKN	CN SBS		UNIX PHB	ADP SBN		<-----CN Lab(B2)----->				
Thursday	CN SBS	UNIX PHB		ME BIDK	DBMS SKN		<-----DBMS Lab(B1)----->				
Friday	ATC VVP	DBMS SKN		ADP SBN	UNIX PHB		CIV TRT	Placement activity			
Saturday	DBMS SKN	ATC VVP		ADP SBN	ME BIDK		Department Forum Activity				
							Tutorials/class test				

Management and Entrepreneurship for IT Industry

Computer Networks and Security

Database Management System

Automata theory and Computability

Application Development using Python

Unix Programming

Kumar B I D(BIDK)

Shruthi B S(SBS)

Shravya S(SS)

Vidya V Patil (VVP)

S B Nandeeshwar (SBN)

Pallavi H B(PHB)

DBMS Laboratory- Shravya S(SS)+Vidya V Patil (VVP)

Computer Networks -Shruthi BS (SBS)+ Ramya P V(RPV)

Laboratory

Environmental Studies - Tejaskar Reddy T (TRT)

F.B.S.
Time Table Coordinator

HOD

Head of the Department
Dept. of IS & E
APS College of Engineering
BANGALORE - 560 082.

A.G.Natalay
Principal
PRINCIPAL
A.P.S. College of Engineering,
Bangalore-560 082

A P S College of Engineering, Somanahalli, Bangalore-82

DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING

Time Table for the Year 2021-22(Odd Semester)

SEM: VII CT: SBN

Room No- CCI203

Days	9:00- 9.50	9.50 - 10.40	10 :40- 11:00	11:00 - 11:50	11:50- 12.40	12:40- 1.20	1.20 - 2:10	2:10 - 3:00	3:00 - 3:50
Monday	NM RPV	BDA BIDK	B	UID PHB	AI&ML SBN	L	Project Phase 1		
Tuesday	UID PHB	NM RPV		NM RPV	BDA BIDK		Internship		
Wednesday	AI&ML SBN	UID PHB	R	E&E SMR	E&E SMR	U	< -----AI&ML Lab B1----->		
Thursday	BDA BIDK	NM RPV	A	AI&ML SBN	UID PHB	C	< -----AI&ML Lab B2----->		
Friday	BDA BIDK	AI&ML SBN	K	E&E SMR	E&E SMR	H	Placement Activity		
Saturday									

Artificial Intelligence and Machine Learning

Big Data Analytics

PE 1 - User Interface Design

PE 2 - Network management

Open Elective- Energy and Environment

S B Nandeeswar (SBN)

Kumar B I D(BIDK)

Pallavi H B(PHB)

Ramya PV (RPV)

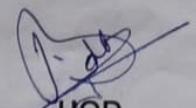
Sathyabodh M Raichur(SMR)

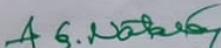
Artificial Intelligence and Machine

Learning Lab - S B Nandeeswar (SBN) + Pallavi H B(PHB)

V.B.S.

Time Table Coordinator


HOD
Head of the Department
 Dept. of I.S & E
 A.P.S College of Engineering
 BANGALORE - 560 082


Principal

PRINCIPAL
 A.P.S. College of Engg.
 Bangalore - 560 082

A P S College of Engineering, Somanahalli, Bangalore-82

DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING

Time Table for the Year 2021-22(Odd Semester)

SEM: VII (15/17 Scheme)

CT: SBN

Room No- CI 203

Days	9:00- 9.50	9.50 - 10.40	10 :40- 11:00	11:00 - 11:50	11:50- 12.40	12:40- 1.20	1.20 - 2:10	2:10 - 3:00	3:00 - 3:50
L U N C H							ML SBN	ML SBN	SAN SS
							SAN SS	SA BIDK	USP PHB
							WTA SBS	SA BIDK	SAN SS
							WTA SBS	USP PHB	ML SBN
							WTA SBS	ML SBN	SA BIDK

Web Technology and Its Applications

Software Architecture

Machine Learning

PE 1 - Unix System Programming

PE 2 - Storage Area Network (SAN)

Shruthi B S (SBS)

Kumar B I D(BIDK)

S B Nandeeswar(SBN)

Pallavi H B(PHB)

Shravya S(SS)

Web Twchnology and its Application Lab with Mini Project - Shruthi B S (SBS)

Machine Learning Lab - S B Nandeeswar(SBN)

Time Table Coordinator

HOD

A G Natesh
Principal

APS College of Engineering

Department of Information Science & Engineering
 Faculty Time table for the academic year 2020-21 (Odd Semester)

Semester: V/VII

Faculty Name: Dr. Kumar BID

Day/Time	9.00to 9.50 a.m.	9.50 to 10.40 a.m.	10.40 to 11.00 a.m.	11.00 to 11.50 a.m.	11.50 to 12.40 p.m.	12.40 to 1.20 p.m.	1.20 to 2.10 p.m.	2.10 to 3.00 p.m.	3.00 to 3.50 p.m.
MON		BDA VII			ME V				
TUE		ME V			BDA VII			SA VII	
WED									
THU	BDA VII			ME V				SA VII	
FRI	BDA VII								
SAT		SA VII			ME V				SA VII

Work Load: Theory : (08 x3) = 24

Project : 3

Other load : Department Responsibilities+ Student Welfare= 2

Total : 28

✓ PS
(TTO)



Head of the Department
 Dept. of IS & E
 APS College of Engineering
 BANGALORE - 560 082.

A.G. Natesan
 (PRINCIPAL)
 PRINCIPAL
 A.P.S. College of Engineering
 Bangalore-560 082



APS College of Engineering

Department of Information Science & Engineering

Faculty Time table for the academic year 2020-21 (Odd Semester)

Semester: V /VII

Faculty Name: Prof. Nandeeswar S B

Day/Time	9.00to 9.50 a.m.	9.50 to 10.40 a.m.	10.40 to 11.00 a.m.	11.00 to 11.50 a.m.	11.50 to 12.40 p.m.	12.40 to 1.20 p.m.	1.20 to 2.10 p.m.	2.10 to 3.00 p.m.	3.00 to 3.50 p.m.
MON		AI & ML VII	BREAK			Lunch			
TUE		AI & ML VII			ADP V			ML VII	
WED	AI & ML VII				ADP V		< -----AI&ML Lab B1-----> VII		
THU				AI & ML VII			< -----AI&ML Lab B2-----> VII		
FRI		AI & ML VII		ADP V					
SAT				ADP V				ML VII sem	

Work Load:

Theory	: 8*3=24
Practical	: 6
Project	: 3
Other load	: Mentoring +NAAC Coordinator+ Departmental Forums = 3
Total	: 36

KFB/S
(TTO)

(HOD)
Head of the Department
Dept. of IS & E
APS College of Engineering
BANGALORE - 560 082

A.G. Natale
(PRINCIPAL)
PRINCIPAL
A.P.S. College of Engineering
Bangalore- 560 082

APS College of Engineering

Department of Information Science & Engineering
 Faculty Time table for the academic year 2020-21(Odd Semester)

Semester: III /V/VII

Faculty Name: Prof. Shruthi B S

Day/Time	9.00to 9.50 a.m.	9.50 to 10.40 a.m.	10.40 to 11.00 a.m.	11.00 to 11.50 a.m.	11.50 to 12.40 p.m.	12.40 to 1.20 p.m.	1.20 to 2.10 p.m.	2.10 to 3.00 p.m.	3.00 to 3.50 p.m.
MON			BREAK	CN V Sem		Lunch	<-----CN Lab(B1)----->		
TUE	CN V Sem	WTA LAB		WTA LAB			<-----CN Lab(B2)----->		
WED		CN V Sem		CN V Sem					
THU	CN V Sem						WTA VII		
FRI							WTA VII		
SAT					WTA VII		WTA VII		

Work Load: Theory : $(08 \times 3) = 24$

Practical : $(3 \times 3) = 9$

Other load : Mentoring + Timetable Coordination + Class teacher= 3

Total : 36

KBS
(TTO)

(HOD)
 Head of the Department
 Dept. of IS & E
 APS College of Engineering
 BANGALORE - 560 082.

+ G. Venkatesh
 (PRINCIPAL)
 PRINCIPAL
 A.P.S. College of Engineering
 Bangalore-560 082

APS College of Engineering

Department of Information Science & Engineering

Faculty Time table for the academic year 2021-22 (Odd Semester)

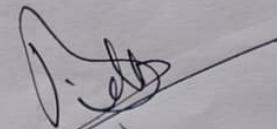
Semester: V/VII

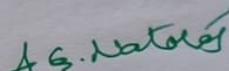
Faculty Name: Prof. Pallavi H B

Day/Time	9.00to 9.50 a.m.	9.50 to 10.40 a.m.	10.40 to 11.00 a.m.	11.00 to 11.50 a.m.	11.50 to 12.40 p.m.	12.40 to 1.20 p.m.	1.20 to 2.10 p.m.	2.10 to 3.00 p.m.	3.00 to 3.50 p.m.
MON	UNIX V Sem		BREAK	UID VII Sem		Lunch			
TUE	UID VII Sem			UNIX V Sem					USP VII
WED	ML Lab VII	UID VII Sem		ML Lab VII	UNIX V Sem		< -----AI&ML Lab B1-----> VII		
THU		UNIX V Sem			UID VII Sem		< -----AI&ML Lab B2-----> VII		
FRI								USP VII	
SAT	SAN VII Sem			USP VII					

Work Load: Theory : $(08 \times 3) = 24$
 Practical : $(3 \times 3) = 9$
 Internship : 1
 Other load : Mentoring + Internal Assessment coordination +Class teacher=3
 Total : 37

LBS
(TTO)


 Head of the Department
 Dept of IS & E
 APS College of Engineering
 BANGALORE - 560 082.


 A.G. Nataraj
 (PRINCIPAL)
 PRINCIPAL
 A.P.S. College of Engineering
 Bangalore-560 082

APS College of Engineering

Department of Information Science & Engineering
 Faculty Time table for the academic year 2020-21(Odd Semester)

Semester: III/V/VII

Faculty Name: Prof. Shravya S

Day/Time	9.00to 9.50 a.m.	9.50 to 10.40 a.m.	10.40 to 11.00 a.m.	11.00 to 11.50 a.m.	11.50 to 12.40 p.m.	12.40 to 1.20 p.m.	1.20 to 2.10 p.m.	2.10 to 3.00 p.m.	3.00 to 3.50 p.m.
MON		SE III	BREAK			Lunch	DBMS Lab with Mini Project(B2)	SAN VII	
TUE					SE III		DBMS Lab with Mini Project(B1)		
WED	DBMS V			SE III			DS Lab III	SAN VII	
THU		SE III			DBMS V				
FRI		DBMS V							
SAT	DBMS V	SAN VII		SE III					

Work Load: Theory : $(8 \times 3) = 24$
 Practical : $(3 \times 3) = 9$
 Other load : Mentoring + Class Teacher = 2
 Total : 35

B.S
(TTO)

Head of the Department
 Dept. of IS & E
 APS College of Engineering

A.G.Nataraj
 (PRINCIPAL)
 PRINCIPAL
 A.P.S. College of Engineering
 Bangalore-560 082

APS College of Engineering

Department of Information Science & Engineering

Faculty Time table for the academic year 2020-21 (Odd Semester)

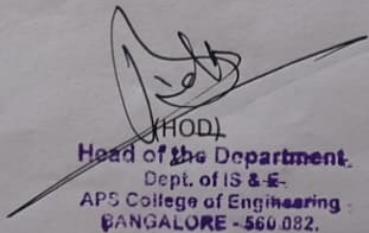
Semester:III/VII

Faculty Name: Prof. Ramya P V

Day/Time	9.00to 9.50 a.m.	9.50 to 10.40 a.m.	10.40 to 11.00 a.m.	11.00 to 11.50 a.m.	11.50 to 12.40 p.m.	12.40 to 1.20 p.m.	1.20 to 2.10 p.m.	2.10 to 3.00 p.m.	3.00 to 3.50 p.m.
MON	NM VII		BREAK	ADE III		Lunch	<-----CN Lab(B1)-----> V		
TUE		NM VII		NM VII			<-----CN Lab(B2)-----> V		
WED	ADE III						<-----DS Lab-----> III		
THU		NM VII							
FRI	ADE III						<-----ADE Lab-----> III		
SAT					ADE III				

Work Load:
 Theory : $(8 \times 2) = 16$
 Practical : $(4 \times 3) = 12$
 Other load : Mentoring = 1
 Total : 29

B.S.
(TTO)



HOD
 Head of the Department,
 Dept. of IS & E-
 APS College of Engineering
 BANGALORE -560 082.

A. S. Natesan
 (PRINCIPAL)
 PRINCIPAL
 A.P.S. College of Engineering
 Bangalore-560 082

APS College of Engineering

Department of Information Science & Engineering

Faculty Time table for the academic year 2020-21 (Odd Semester)

Semester:III/V

Faculty Name: Prof. Vidya V Patil

Day/Time	9.00to 9.50 a.m.	9.50 to 10.40 a.m.	10.40 to 11.00 a.m.	11.00 to 11.50 a.m.	11.50 to 12.40 p.m.	12.40 to 1.20 p.m.	1.20 to 2.10 p.m.	2.10 to 3.00 p.m.	3.00 to 3.50 p.m.
MON		ATC V	BREAK		DS III	Lunch	DBMS Lab with Mini Project(B2) V		
TUE		DS III		ATC V			DBMS Lab with Mini Project(B1) V		
WED		DS III					< -----DS Lab----- III		
THU	DS III								
FRI	ATC V						<-----ADE Lab----- III		
SAT		ATC V							

Work Load: Theory : $(8 \times 2) = 16$
 Practical : $(4 \times 3) 12$
 Other load : 1
 Total : 32

✓BS
(TTO)

(HOD)
Head of the Department
 Dept. of IS & E
 APS College of Engineering
 BANGALORE - 560 082

A. S. Patil
(PRINCIPAL)
PRINCIPAL
 A.P.S. College of Engineering
 Bangalore-560 082

APS College of Engineering

Department of Information Science & Engineering

Faculty Time table for the academic year 2020-21 (Odd Semester)

Semester:III/I

Faculty Name: Prof. Kavyashree K B

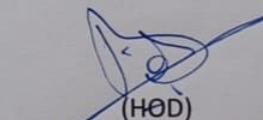
Day/Time	9.00to 9.50 a.m.	9.50 to 10.40 a.m.	10.40 to 11.00 a.m.	11.00 to 11.50 a.m.	11.50 to 12.40 p.m.	12.40 to 1.20 p.m.	1.20 to 2.10 p.m.	2.10 to 3.00 p.m.	3.00 to 3.50 p.m.
MON			BREAK			Lunch			
TUE									
WED								< -----DS Lab(III)----->	< -----C programming Lab(I)----->
THU									
FRI								< -----ADE Lab(III)----->	< -----C programming Lab(I)----->
SAT									

Work Load: Practical : $(4 \times 3) = 12$

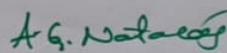
Other load : Mentoring + Lab In charge + IA Conduction = 7

Total : = 19

~~✓ 85.~~
(TTO)



(HOD)
Head of the Department
Dept. of IS & E
APS College of Engineering
BANGALORE - 560 082.


(PRINCIPAL)
PRINCIPAL
APS College of Engineering
Bangalore-560 082



APS COLLEGE OF ENGINEERING

Somanahalli, Kanakapura Road, Bangalore - 560062

Department of Information Science & Engineering

Ref. No.: APSCE/ISE/SA/Odd/2021-22/01

Date: 01/10/2021

Dear Dr. Kumar B I D

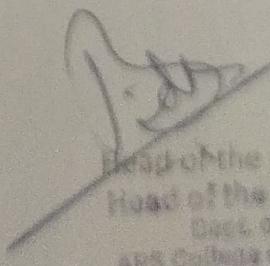
Sub: Subject Allotment for the odd semester of Academic Year 2021-22.

Ref: Faculty Meeting held on 22-09-2021.

With reference to the above cited subject based on the options given by you and in the faculty meeting, the following courses (Theory & Practical) have been allotted to you.

Sl. No.	Subject with code	Semester
1	Management, Entrepreneurship for IT Industry (18CS51)	V
2	Big Data Analytics (18CS72)	VII
3	Software Architecture & Design Patterns(17CS72/15CS72)	VII
4	Project Work Pahse-1 (17ISP78/15ISP78)	VII

You are, therefore, hereby informed to update and keep course material, lesson planning and prepare well for effective delivery of courses allotted to you from the day of reopening.


Head of the Department
Head of the Department
Date: 01/10/21
APS College of Engineering
BANGALORE - 560 062



A P S COLLEGE OF ENGINEERING

Somanahalli, Kanakapura Road, Bangalore - 5600082.

Department of Information Science & Engineering

Ref. No.: APSCE/ISE/SA/Odd/2021-22/04

Date: 01/10/2021

Dear Prof. Pallavi H B

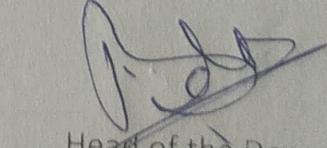
Sub: Subject allotment for the odd semester of academic year 2021-22.

Ref: Faculty meeting held on 22-09-2021.

With reference to the above cited subject based on the options given by you and in the faculty meeting, the following courses (Theory & Practical) have been allotted to you.

Sl. No.	Subject with code	Semester
1	Unix Programming (18CS56)	V
2	User Interface Design (18CS734)	VII
3	Artificial Intelligence and Machine Learning Laboratory (18CSL76)	VII
4	UNIX System Programming (17CS744/15CS744)	VII
5	Machine Learning Lab(17CSL76/15CSL76)	VII

You are, therefore, hereby informed to update and keep course material, lesson planning and prepare well for effective delivery of courses allotted to you from the day of reopening.


Head of the Department
Head of the Department
Dept. of IS & E
APS College of Engineering
BANGALORE - 560 082.



A P S COLLEGE OF ENGINEERING

Somanahalli, Kanakapura Road, Bangalore - 5600082.

Department of Information Science & Engineering

Ref. No.: APSCE/ISE/SA/Odd/2021-22/02

Date: 01/10/2021

Dear Prof. Nandeeswar S B

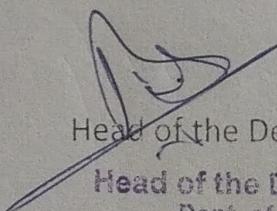
Sub: Subject allotment for the odd semester of academic year 2021-22.

Ref: Faculty meeting held on 22-09-2021.

With reference to the above cited subject based on the options given by you and in the faculty meeting, the following courses (Theory & Practical) have been allotted to you.

Sl. No.	Subject with code	Semester
1	Application Development using Python (18CS55)	V
2	Artificial Intelligence and Machine Learning (18CS71)	VII
3	Artificial Intelligence and Machine Learning Laboratory (18CSL76)	VII
4	Machine Learning (17CS73)	VII
5	Project Work Phase-I + Project work Seminar (18CSP77)	VII

You are, therefore, hereby informed to update and keep course material, lesson planning and prepare well for effective delivery of courses allotted to you from the day of reopening.


Head of the Department

Head of the Department
Dept. of IS & E
APS College of Engineering
BANGALORE - 560 082.



APS COLLEGE OF ENGINEERING

Somanahalli, Kanakapura Road, Bangalore - 5600082.

Department of Information Science & Engineering

Ref. No.: APSCE/ISE/SA/Odd/2021-22/03

Date: 01/10/2021

Dear Prof. Shruthi B S

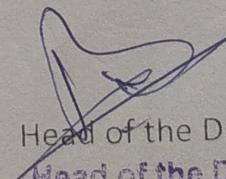
Sub: Subject allotment for the odd semester of academic year 2021-22.

Ref: Faculty meeting held on 22-09-2022.

With reference to the above cited subject based on the options given by you and in the faculty meeting, the following courses (Theory & Practical) have been allotted to you.

Sl. No.	Subject with code	Semester
1	Computer Organization (18CS34)	III
2	Computer Networks and Security (18CS52)	V
3	Computer Network Laboratory (18CSL57)	V
4	Web Technology & Its Applications (17CS71/15CS71)	VII
5	Web Technology Lab with Mini Project (17CSL77/15CSL77)	VII

You are, therefore, hereby informed to update and keep course material, lesson planning and prepare well for effective delivery of courses allotted to you from the day of reopening.


Head of the Department
Head of the Department
Dept. of IS & E
APS College of Engineering
BANGALORE - 660 082.



APS COLLEGE OF ENGINEERING

Somanahalli, Kanakapura Road, Bangalore - 5600082.

Department of Information Science & Engineering

Ref. No.: APSCE/ISE/SA/Odd/2021-22/07

Date: 01/10/2021

Dear Prof. Shravya S

Sub: Subject allotment for the odd semester of academic year 2021-22.

Ref: Faculty meeting held on 22-09-2021.

With reference to the above cited subject based on the options given by you and in the faculty meeting, the following courses (Theory & Practical) have been allotted to you.

Sl. No.	Subject with code	Semester
1	Software Engineering (18CS35)	V
2	Data Base Management System (18CS53)	V
3	DBMS Laboratory with mini project (18CSL58)	V
4	Storage Area Networks (17CS541/15CS754)	VII
5	Data Structures Laboratory (18CSL38)	III
6	Computer Programming Laboratory (AIPL2767)	I

You are, therefore, hereby informed to update and keep course material, lesson planning and prepare well for effective delivery of courses allotted to you from the day of reopening.

Head of the Department
Head of the Department
Dept. of IS & E
APS College of Engineering
BANGALORE - 560 082.



APS COLLEGE OF ENGINEERING

Somanahalli, Kanakapura Road, Bangalore - 5600082.

Department of Information Science & Engineering

Ref. No.: APSCE/ISE/SA/Odd/2021-22/06

Date: 01/10/2021

Dear Prof. Vidya V Patil

Sub: Subject allotment for the odd semester of academic year 2021-22.

Ref: Faculty meeting held on 22-09-2021.

With reference to the above cited subject based on the options given by you and in the faculty meeting, the following courses (Theory & Practical) have been allotted to you.

Sl. No.	Subject with code	Semester
1	Data Structures and Applications (18CS32)	III
2	Data Structures Laboratory (18CSL38)	III
3	Automata theory and Computability (18CS54)	V
4	Analog and Digital Electronics Laboratory (18CSL37)	III
5	DBMS Laboratory with mini project (18CSL58)	V

You are, therefore, hereby informed to update and keep course material, lesson planning and prepare well for effective delivery of courses allotted to you from the day of reopening.

Head of the Department
Head of the Department
Dept. of IS & E
APS College of Engineering
BANGALORE - 560 082.



APS College of Engineering

Somanahalli, Kanakapura Road, Bangalore-82
Department of Information Science and Engineering

Subject Name: Engineering Physics

Subject Code	21PHY12	IA Marks	50
Number of Lecture Hours/Week	04	Exam Marks	50
Total Number of Lecture Hours	40	Exam Hours	03
SEMESTER	I	CREDITS	03
Name of the Faculty	Dr. Shobha N.C.	Academic Year	2021-22

Course Delivery Plan

Period /Hour	Planned Date	Execution Date	Topic / Session topic	CO & REVISED Bloom's Taxonomy
<u>Module-1</u>				
1	28/12/2021	28/12/2021 30/12/2021	Free Oscillations: Definitions of SHM, characteristics, Examples and Derivation of differential equation of motion for SHM starting from Hooke's law and to mention its solution. Mechanical simple harmonic oscillator: Mass suspended to spring- Description, Mention of Expression for time period/frequency.	CO-1 L-1,L-2 & L-3
2	30/12/2021	4/1/2022	Definition of force constant and its significance, Derivation of expressions for force constants for series and parallel combination of springs.	CO-1 L-1,L-2 & L-3
3	4/1/2022	6/1/2022	Definition of free oscillations with examples, mention the equation of motion, Natural frequency of vibration- Qualitative discussion. Damped oscillations: Definition with examples.	CO-1 L-1,L-2 & L-3
4	6/1/2022	11/1/2022	Derivation of decaying amplitude, Discussion of 3 cases viz, over damping, critical damping and under damping. Quality factor: Definition, equation and its significance.	CO-1 L-1,L-2 & L-3

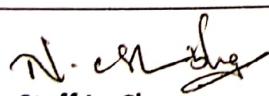
5	11/1/2022	18 1 22	<p>Forced oscillations: Definition with examples. Derivation of expressions for amplitude and phase of forced vibrations. Discussion of 3 cases (i) $p \ll w$ and (iii) $p \gg w$</p>	CO-1 L-1,L-2 & L-3
6	18/1/2022	25 1 22	Resonance: Definition, ex., condition for resonance and expression for maximum amplitude, sharpness of resonance	CO-1
		15 2 22	Definition and effect of damping on sharpness of resonance. Shock waves: Definition of Mach number, classification of objects based on Mach number. Properties of shock waves.	L-1,L-2 & L-3
7	25/1/2022	26 2 22	Construction and working of Reddy's shock tube. Applications of shock waves.	CO-1 L-1,L-2 & L-3
8	15/2/2022	2 3 22	Numerical Problems	CO-1 L-1,L-2 & L-3
9	26/2/2022	4 3 22	Tutorial Class	CO-1 L-1,L-2 & L-3

Module-4

21	2/3/2022	1 3 22	Classical free electron theory: Drude-Lorentz theory & Assumptions of classical free electron theory mention the expressions for electrical conductivity based on classical free electron theory, and explain the failures of classical free electron theory.	CO-4 L-1,L-2 & L-3
22	4/3/2022	7 3 22	Quantum free electron theory: Assumptions of quantum free electron theory. Definition of density of states and mention the expression for density of states. Qualitative discussion of Fermi level, Fermi energy, Fermi-Dirac statistics.	CO-4 L-1,L-2 & L-3

23	7/3/2022	8 3 22	Fermi factor, Fermi factor at different temperatures. Expression for electrical conductivity. Merits / Success of quantum free electron theory.	CO-4 L-1,L-2 & L-3
24	15/3/22	9 3 22	Semiconductors: Fundamentals of semiconductor. Description of Fermi level in intrinsic semiconductor. Mention of expression for electron and hole concentration in intrinsic semiconductors.	CO-4 L-1,L-2 & L-3
25	19/3/2022	15 3 22	Derivation of the expression for electrical conductivity of semiconductors. Explanation of Hall effect with Hall voltage and Hall field	CO-4 L-1,L-2 & L-3
26	22/3/2022	16 3 22	Explanation of Hall field derivation of the expression for Hall coefficient. Dielectrics: Electric dipole, Dipole moment, Polarization of dielectric materials.	CO-4 L-1,L-2 & L-3
27	29/3/2022	18 3 22	Types of polarization. Polar and non-polar dielectrics. Qualitative treatment of internal field in case of solids for one dimensional infinite array of dipoles(Lorentz field).	CO-4 L-1,L-2 & L-3
28	30/3/2022	22 3 22	Derivation of Clausius-Mossotti equation. Numerical Problems.	CO-4 L-1,L-2 & L-3
29	4/4/2022	23 3 22 29 3 22	Tutorial Class	CO-4 L-1,L-2 & L-3

2nd Assignment Questions: Q. no. 1 to Q. no. 24 (Refer Question Bank of Module 1)
Q. no. 1 to Q. no. 17 (Refer Question Bank of Module 4)


Staff In-Charge


HOD



A.P.S. College of Engineering

Somnathalli, Kanakapura Road, Bangalore-82
Department of Chemistry

Subject Name: ENGINEERING CHEMISTRY

Subject Code	21CHE12	CIE Marks	50
Number of Lecture Hours/Week	04	SEE Marks	50
Total Number of Lecture Hours	40	Exam Hours	03
SEMESTER	I	CREDITS	03
Name of the Faculty	D.R. Bharathadevi	Academic Year	2021-22

Course Delivery Plan

Period/No	Planned Date	Execution Date	Topic / Session topic	CO & REVISED Bloom's Taxonomy
Module-1 Title: Electrochemistry and Energy storage systems				
1	28/12/21	27/12/21	Electrochemistry : Introduction, Definitions of free energy and Cell potential.	CO-1 L1
2	29/12/21	28/12/21	Derivation of Nernst equation for single electrode potential.	CO-1 L2
3	30/12/21	29/12/21	Numerical problems based on Nernst equation.	CO-1 L3
4	31/12/21	30/12/21	Numerical problems based on Nernst equation.	CO-1 L2
5	04/01/22	31/12/21	Reference electrodes – Construction and working of calomel electrode.	CO-1 L2
6	05/01/22	04/01/21	Ion-selective electrode - Construction and working of glass electrode.	CO-1 L2
7	06/01/22	05/01/21	Determination of pH using glass electrode.	CO-1 L3
8	07/01/22	06/01/21	Energy storage systems: Introduction, classification of batteries.	CO-1 L1, L2
9	11/01/22	07/01/21	Lithium batteries: Introduction, Construction, working and applications of Li-ion battery.	CO-1 L2

10	12/01/22	11/01/21	Advantages of Li-ion battery, Recycling of Li-ion batteries, Sodium-ion battery – Introduction.	CO-1 L2
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Module 2 Title: Corrosion and Metal Finishing

11	13/01/22	12/01/21	Corrosion: Introduction, Electrochemical theory of corrosion.	CO-2 L1
12	14/01/22	13/01/21	Factors affecting the rate of corrosion: ratio of anodic to cathodic areas, nature of corrosion product.	CO-2 L2
13	18/01/22	14/01/21	Factors affecting the rate of corrosion: nature of medium – pH, conductivity and temperature. Types of corrosion - Differential metal corrosion.	CO-2 L3
14	19/01/22	18/01/21	Differential aeration - pitting and water line. Corrosion control: Anodizing – Anodizing of aluminium.	CO-2 L1, L2
15	20/01/22	19/01/21	Corrosion control: Cathodic protection - Impressed current method, sacrificial anode method.	CO-2 L2
16	21/01/22	20/01/21	Metal coatings - Galvanization. Corrosion penetration rate (CPR), numerical problems on CPR.	CO-2 L2
17	25/01/22	21/01/21	Metal finishing: Introduction, Technological importance. Electroplating: Introduction.	CO-2 L2
18	27/01/22	25/01/21	Electroplating of chromium (hard and decorative).	CO-2 L2
19	28/01/22	27/01/21	Electroless plating: Introduction, distinction between electroplating and electroless plating processes.	CO-2 L2
20	01/02/22	28/01/21	Electroless plating of copper.	CO-2 L2

1st Assignment Questions: Q.no 1 to Q.no 4 from Question Bank on Module 1 & Q.no. 1 to 6 from Module 2.

Module 3 Title: Engineering Materials

21	02/02/22	31/01/21	Polymers: Introduction, Synthesis and applications of polyurethanes.	CO-3 L1, L2
22	03/02/22	02/02/22	Polymer composites – Introduction, synthesis, properties and applications of Kevlar fibre.	CO-3 L1, L2
23	04/02/22	03/02/22	Conducting polymers: Introduction, synthesis and mechanism of conduction in polyaniline and factors influencing conductivity of organic polymers.	CO-3 L1, L2

24	10/02/22	04/02/22	Biodegradable polymers: Introduction and their requirements. Synthesis, properties and applications of Poly lactic acid.	CO-3 L1, L2
25	11/02/22	15/02/22	Nanomaterials: Introduction, size dependent properties (Surface area, Electrical, Optical, Catalytic properties).	CO-3 L1, L2
26	15/02/22	18/02/22	Synthesis of nanomaterials: Top down and bottom up approaches, Synthesis by Sol-gel method.	CO-3 L1, L2
27	16/02/22	22/02/22	Synthesis by precipitation method. Nanoscale materials: Fullerenes.	
28	17/02/22	23/02/22	Carbon nanotubes and graphenes – properties and applications.	

Module 4 Title: Green Chemistry and Alternative energy resources

29	18/02/22	23/02/22	Green Chemistry: Introduction, definition, major environmental pollutants. Basic principles of green chemistry.	CO-4 L1, L2
30	22/02/22	02/03/22	Various green chemical approaches – Microwave synthesis, bio catalysed reactions, mechanism of degradation.	CO-4 L1, L2
31	23/02/22	03/03/22	Super critical conditions for solvent free reactions. Synthesis of adipic acid by conventional and green route.	CO-4 L1, L2
32	24/02/22	04/03/22	Synthesis of paracetamol by conventional and green route. Industrial applications of green chemistry.	CO-4 L1, L2
33	25/02/22	07/03/22	Green fuel – Hydrogen production by photo electro catalytic method	CO-4 L1, L2
34	08/03/22	09/03/22	Green fuel – Hydrogen production by photo catalytic water splitting, and applications in hydrogen fuel cells.	CO-4 L1, L2
35	09/03/22	15/03/22	Construction, working and applications of Methanol – oxygen fuel cell.	CO-4 L1, L2

Module 5 Title: Water Chemistry, Methods of chemical analysis and Instrumental methods of analysis

36	10/03/22	16/03/22	Water Chemistry: Introduction, sources and impurities of water, Potable water – meaning, specifications as per WHO standards.	CO-5 L1, L2
37	11/03/22	17/03/22	Hardness of water – types, determination of hardness using EDTA titration.	CO-5 L1, L2
38	15/03/22	18/03/22	Numerical problems on hardness of water.	CO-5 L1, L2
39	16/03/22	22/03/22	Biological oxygen demand, Chemical oxygen demand – definition, determination of COD of waste water sample. Numerical problems on COD.	CO-5 L1, L2

40	17/03/22	23/03/22	Methods of Chemical analysis Volumetric analysis - Introduction, principles of titrimetric analysis, requirements of titrimetric analysis, primary and secondary standards. Preparation of a primary standard solution, units of standard solutions - normality, molality, molal, mole fraction and ppm.	CD-4 L1, L2
41	18/03/22	24/03/22	Instrumental methods of analysis - Introduction, Theory, instrumentation and applications of colorimetry.	CD-4 L1, L2
42	22/03/22	26/03/22	Instrumental methods of analysis - Introduction, Theory, instrumentation and applications of flame photometry, polarimetry.	CD-4 L1, L2
43	23/03/22	27/03/22	Theory, instrumentation and applications of conductometry.	CD-4 L1, L2
44	24/03/22	28/03/22	Theory, instrumentation and applications of	CD-4 L1, L2

Assignment Questions: Q. no 7-12 from module 5 & Q. no. 1-6 from module 4


Student Signature:


Teacher's Signature:



Subject Name: Calculus and Differential Equations

Subject Code	21MAT11	IA Marks	50
Number of Lecture Hours/Week	04	Exam Marks	50
Total Number of Lecture Hours	40	Exam Hours	03
SEMESTER	IIS/ME/CV	CREDITS	03
Name of the Faculty	K.S. Anand	Academic Year	2021-22

CO1: Apply the knowledge of calculus to solve problems related to polar curves and its applications determining the bentness of a curve.

CO2: Learn the notion of partial differentiation to calculate rates of change of multivariate functions and solve problems related to composite functions and Jacobians.

CO3: Solve first order linear/nonlinear differential equation analytically using standard methods.

CO4: Demonstrate various models through higher order differential equations and solve ordinary differential eqns.

CO5: Test the consistency of a system of linear equations and solve them by direct and iterative methods.

Module 1: Differential Calculus – I

Lecture	Planned Date	Execution Date	Topic / Session topic	COS and revised Blooms's Taxonomy
1	28/12/21	27/12	Polar Curves, Definition	CO1, L1
2	29/12/21	28/12	Derivations. Angle between two curves	CO1, L2
3	30/12/21	28/12	Pedal Equation. Derivation	CO1, L2
4	31/12/21	29/12	Problems on pedal equation	CO1, L2
5	4/1/22	30/12	Curvature, Radius of curvature. Cartesian form, Definition	CO1, L2
6	5/1/22	31/12	Problems on Radius of curvature Cartesian form.	CO1, L1
7	6/1/22	4/1	Radius of curvature parametric form	CO1, L2
8	7/1/22	5/1	Radius of curvature in polar form, Derivation	CO1, L1,L2
9	11/1/22	6/1	Problems of radius of curvature in polar form	CO1, L1,L2
10	12/1/22	7/1	Problems of radius of curvature in polar form	CO1, L1,L2

Module 2: Differential Calculus 2

1	13/1/22	11/1	Problems on Maclaurins series	CO2, L2
2	14/1/22	12/1	Indeterminate forms	CO2, L2
3	18/1/22	13/1	Problems on Indeterminate forms	CO2, L2
4	19/1/22	14/1	Partial Differentiation	CO2, L2
5	20/1/22	18/1	Problems on Partial Differentiation	CO2, L2
6	21/1/22	19/1	Problems on Total Derivative	CO2, L2
7	25/1/22	20/1	Chain Rule for Partial Differentiation	CO2, L2
8	27/1/22	21/1	Jacobians	CO2, L1,L2
9	28/1/22	22/1	Maxima and Minima	CO2, L1,L2
10	1/2/22	23/1	Problems	CO2, L2

Module 5: Linear Algebra

1	2/2/22	1/2	Elementary Row transformations	CO5, L2
2	3/2/22	2/2	Rank of a matrix	CO5, L2
3	4/2/22	3/2	Consistency and Inconsistency	CO5, L2
4	10/2/22	4/2, 19/2	Gauss-Elimination Method	CO5, L2
5	11/2/22	16/2	Gauss-Jordan Method	CO5, L2
6	15/2/22	18/2	Gauss-Seidel Method	CO5, L2
7	16/2/22	22/2	Eigenvalues and EigenVectors	CO5, L2
8	17/2/22	23/2	Eigenvalues and EigenVectors	CO5, L2
9	18/2/22	24/2, 25/2	Rayleigh's Power Method	CO5, L2
10	22/2/22	25/2	Rayleigh's Power Method	CO5, L2

Module 4: Ordinary Differential Equations of higher order

1	23/2/22	$2\frac{6}{2}$	Linear Differential equations with constant coefficients – Definition	CO4, L2
2	24/2/22	$2\frac{1}{3}, 3\frac{1}{3}$	Problems on Homogeneous Equations	CO4, L2
3	25/2/22	$4\frac{1}{3}$	To find P I when $X = e^{ax}$	CO4, L2
4	8/3/22	$7\frac{1}{3}$	To find the P I when $X = \sin ax$ or $\cos ax$	CO4, L2
5	9/3/22	$7\frac{1}{3}$	To find the P I when $X = \sin ax$ or $\cos ax$	CO4, L2
6	10/3/22	$8\frac{1}{3}$	To find the P I when $X = x^m$	CO4, L2
7	11/3/22	$8\frac{1}{3}, 9\frac{1}{3}$	Problems on Cauchy's Differential Equations	CO4, L2
8	15/3/22	$15\frac{1}{3}$	Problems on Legendre's Differential Equations	CO4, L2
9	16/3/22	$17\frac{1}{3}$	Problems on variation of parameters	CO4, L2

Module 3 : Ordinary Differential Calculus of first order

1	17/3/22	$18\frac{1}{3}, 2\frac{2}{3}$	Linear Differential Equations	CO3, L2
2	18/3/22	$2\frac{2}{3}$	Bernoulli Equation	CO3, L2
3	22/3/22	$2\frac{4}{3}$	Exact Differential Equation	CO3, L2
4	23/3/22	$2\frac{4}{3}, 2\frac{5}{3}$	Reducible to Exact Differential Equation	CO3, L2
5	28/3/22	$1\frac{1}{4}$	Orthogonal Trajectories in Cartesian form	CO3, L2
6	29/3/22	$4\frac{1}{4}$	Orthogonal Trajectories in Cartesian form	CO3, L2
7	30/3/22	$3\frac{1}{4}$	Orthogonal Trajectories in Polar form	CO3, L2, L3
8	30/3/22	$3\frac{1}{4}, 4\frac{1}{4}$	Problems on law of cooling	CO3, L2, L3

K.S. Aneeth

Faculty

Meesha,
First Year coordinator

**APS College of Engineering,
Somanahalli, Bengaluru-82.**

Department of Mathematics

Lesson plan and Lesson delivery details

Transform Calculus, Fourier Series and Numerical Methods
[As per Choice Based Credit System (CBCS) scheme]

SEM- III
Year:2021-22

Name of the Faculty: K.R.Sridhar
Section: III ISE

Subject Code	18MAT31	IA Marks	40
Number of Lecture Hours/Week	03	Exam Marks	60
Total Number of Lecture Hours	40	Exam Hours	03
Credits 03			

Course objectives:

This course will enable students to:

- CLO1: To have an insight into Laplace Transforms.
- CLO2: To have an insight into Fourier Series.
- CLO3: To have an insight into Fourier transforms and Z- transforms.
- CLO4: Develop proficiency in solving nonlinear equations numerically.
- CLO5: To develop the proficiency in variational calculus and solving ODE's arising in engineering applications.

Course outcomes:

After studying this course, students will be able to

- CO1:** Use Laplace transform and inverse Laplace transform in solving differential/ integral equation arising in network analysis, control systems and other fields of engineering.
- CO2:** Demonstrate Fourier series to study the behaviour of periodic functions and their applications in system communications, digital signal processing and field theory.
- CO3:** Make use of Fourier transform and Z-transform to illustrate discrete/continuous function arising in wave and heat propagation, signals and systems.
- CO4:** Solve first and second order ordinary differential equations arising in engineering problems using single step and multistep numerical methods.
- CO5:** Determine the externals of functionals using calculus of variations and solve problems arising in dynamics of rigid bodies and vibrational analysis.

Text Book				
1	Advanced Engineering Mathematics	E. Kreyszig	John Wiley & Sons 10 th Edition,	2016

Module 1:Laplace Transforms					
Lecture	Planned Date	Execution Date	Topic / Session topic	Pertaining CO & BTL	Instructional Method/ Activity
1	21-10-21	22/10	Elementary Laplace Transforms	L1, CO1	Chalk& talk
2	21-10-21	23/10	Problems on Laplace Transforms	L3, CO1	Chalk& talk
3	22-10-21	28/10	Problems on Periodic functions.	L3, CO1	Chalk& talk
4	23-10-21	28/10	Problems on Periodic functions	L3, CO1	Chalk& talk
5	28-10-21	28/10	Problems on unit step functions	L3, CO1	Chalk& talk
6	28-10-21	29/10	Problems on inverse Laplace transform.	L3, CO1	Chalk& talk
7	29-10-21	30/10	Problems on inverse Laplace transform	L3, CO1	Chalk& talk
8	30-10-21	11/11	Problems on inverse Laplace transform using convolution theorem	L3, CO1	Chalk& talk
9	4-11-21	11/11	Solution of ordinary differential equations using Laplace Transforms	L3, CO1	Chalk& talk
10	4-11-21	12/11	Solution of ordinary differential equations using Laplace Transforms	L3, CO1	Chalk& talk

Module 4: Numerical solution of ordinary differential equations					
Lecture	Planned Date	Execution Date	Topic / Session topic	Pertaining CO & BTL	Instructional Method/ Activity
1	11-11-21	13/11	Problems on Taylor Series method	L3, CO4	Chalk& talk
2	11-11-21	18/11	Problems on Taylor Series method	L3, CO4	Chalk& talk
3	12-11-21	18/11	Problems on modified Euler's method	L3, CO4	Chalk& talk
4	13-11-21	19/11	Problems on modified Euler's method	L3, CO4	Chalk& talk
5	18-11-21	21/12	Problems on Runge Kutta method	L3, CO4	Chalk& talk
6	18-11-21	21/12	Problems on Runge Kutta method	L3, CO4	Chalk& talk
7	19-11-21	21/12	Problems on Milne's method	L3, CO4	Chalk& talk
8	2-12-21	9/12	Problems on Milne's method	L3, CO4	Chalk& talk
9	2-12-21	9/12	Problems on Adams Bashforth method	L3, CO4	Chalk& talk

Module 2: Fourier Series

Lecture	Planned Date	Execution Date	Topic / Session topic	Pertaining CO & BTL	Instructional Method/Activity
1	3-12-21	10/12	Problems on Full range Fourier Series	L3, CO2	Chalk& talk
2	9-12-21	11/12	Problems on Full range Fourier Series	L3, CO2	Chalk& talk
3	9-12-21	16/12	Problems on Full range Fourier Series	L3, CO2	Chalk& talk
4	10-12-21	16/12	Problems on Full range Fourier Series.	L3, CO2	Chalk& talk
5	11-12-21	17/12	Problems on half-range Fourier Series	L3, CO2	Chalk& talk
6	16-12-21	18/12	Problems on half-range Fourier Series	L3, CO2	Chalk& talk
7	16-12-21	23/12	Problems on half-range Fourier Series	L3, CO2	Chalk& talk
8	17-12-21	23/12	Problems on Harmonic Analysis	L3, CO2	Chalk& talk

Module 3: Fourier Transforms, Z-transforms & Difference equations

Lecture	Planned Date	Execution Date	Topic / Session topic	Pertaining CO & BTL	Instructional Method/Activity
1	23-12-21	24/12	Problems on Infinite Fourier Transforms	L3, CO3	Chalk& talk
2	23-12-21	6/1	Problems on Infinite Fourier Transforms	L3, CO3	Chalk& talk
3	24-12-21	6/1	Problems on Infinite Fourier Cosine Transforms	L3, CO3	Chalk& talk
4	30-12-21	7/1	Problems on Infinite Fourier Sine Transforms	L3, CO3	Chalk& talk
5	30-12-21	8/1	Miscellaneous problems	L3, CO3	Chalk& talk
6	31-12-21	13/1	Problems on Z transforms.	L3, CO3	Chalk& talk
7	6-1-22	13/1	Problems on Z transforms.	L3, CO3	Chalk& talk
8	6-1-22	14/1	Problems on Z transforms.	L3, CO3	Chalk& talk
9	7-1-22	20/1	Problems on inverse Z transforms	L3, CO3	Chalk& talk
10	8-1-22	20/1	Problems on difference equations	L3, CO3	Chalk& talk

Module 5: Numerical methods and calculus of variations					
Lecture	Planned Date	Execution Date	Topic / Session topic	Pertaining CO & BTL	Instructional Method/ Activity
1	13-1-22	21/1	Problems on 4 th order Runge-Kutta method	L3, CO5	Chalk& talk
2	13-1-22	22/1	Problems on 4 th order Runge-Kutta method	L3, CO5	Chalk& talk
3	20-1-22	27/1	Problems on 4 th Milne's method	L3, CO5	Chalk& talk
4	20-1-22	27/1	Problems on 4 th Milne's method	L3, CO5	Chalk& talk
5	21-1-22	28/1	Derivation of Euler's equation	L1, CO5	Chalk& talk
6	22-1-22	29/1	Problems on variation	L3, CO5	Chalk& talk
7	27-1-22	3/2	Problems on variation	L3, CO5	Chalk& talk
8	27-1-22	3/2	Problems on variation	L3, CO5	Chalk& talk
9	28-1-22	4/2	Problems on geodesics	L3, CO5	Chalk& talk
10	29-1-22	10/2	Problems on standard variational problems	L3, CO5	Chalk& talk

Classes in February: Revision/ Previous Year QP discussion

KSB
Faculty

Kel
HOD



APS College of Engineering

Somanahalli, Kanakapura Road, Bangalore-82
Department of Information Science and Engineering

Subject Name: Data Structures and Applications

Subject Code	18CS32	CIE Marks	40
Number of Lecture Hours/Week	3:2:0	SEE Marks	60
Total Number of Lecture Hours	50	Exam Hours	03
SEMESTER	III	CREDITS	04
Name of the Faculty	VIDYA V PATIL	Academic Year	2020-21

Course Delivery Plan

Period /Hour	Planned Date	Execution Date	Topic / Session topic	CO & REVISED Bloom's Taxonomy
<u>Module-1</u>				
1	25/10/2021	25/10/2021	Introduction: Data Structures, Classifications (Primitive & Non Primitive).	CO-1 L-1,L-2,L-3
2	26/10/2021	26/10/2021	Data structure Operations, Review of Arrays.	CO-1 L-1,L-2,L-3
3	27/10/2021	27/10/2021	Structures, Self-Referential Structures, and Unions.	CO-1 L-1,L-2,L-3
4	28/10/2021	28/10/2021	Pointers and Dynamic Memory Allocation Functions.	CO-1 L-1,L-2,L-3
5	2/11/2021	2/11/2021	Representation of Linear Arrays in Memory, Dynamically allocated arrays.	CO-1 L-1,L-2,L-3
6	4/11/2021	4/11/2021	Array Operations: Traversing, inserting, deleting, searching, and sorting.	CO-1 L-1,L-2
7	8/11/2021	8/11/2021	Multidimensional Arrays.	CO-1 L-1,L-2,L-3
8	9/11/2021	9/11/2021	Polynomials and Sparse Matrices.	CO-1 L-1,L-2,L-3
9	10/11/2021	10/11/2021	Strings: Basic Terminology, Storing, Operations and Pattern Matching algorithms.	CO-1 L-1,L-2,L-3
10	11/11/2021	11/11/2021	Programming Examples.	CO-1 L-1,L-2,L-3
<u>1st Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 1)</u>				
<u>Module-2</u>				
11	15/11/2021	15/11/2021	Stacks: Definition, Stack Operations, Array Representation of Stacks.	CO-2 L-1,L-2,L-3

12	16/11/2021	16/11/2021	Stacks using Dynamic Arrays.	CO-2 L-1,L-2,L-3
13	17/11/2021	17/11/2021	Stack Applications: Polish notation.	CO-2 L-1,L-2,L-3
14	18/11/2021	18/11/2021	Infix to postfix conversion.	CO-2 L-1,L-2,L-3
15	23/11/2021	23/11/2021	Recursion - Factorial, GCD, Fibonacci Sequence.	CO-2 L-1,L-2,L-3]
16	24/11/2021	24/11/2021	Tower of Hanoi, Ackerman's function.	CO-2 L-1,L-2,L-3
17	29/11/2021	29/11/2021	Queues: Definition, Array Representation, Queue Operations, Circular Queues.	CO-2 L-1,L-2,L-3
18	30/11/2021	30/11/2021	Circular queues using Dynamic arrays, Dequeues, Priority Queues.	CO-2 L-1,L-2,L-3
19	01/12/2021	01/12/2021	A Mazing Problem. Multiple Stacks and Queues.	CO-2 L-1,L-2,L-3
20	02/12/2021	02/12/2021	Programming Examples.	CO-2 L-1,L-2,L-3

2nd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 2)

Module-3

21	06/12/2021	06/12/2021	Definition, Representation of linked lists in Memory.	CO-3 L-1,L-2,L-3
22	07/12/2021	07/12/2021	Memory allocation; Garbage Collection.	CO-3 L-1,L-2,L-3
23	08/12/2021	08/12/2021	Linked list operations: Traversing, Searching, Insertion, and Deletion.	CO-3 L-1,L-2,L-3
24	09/12/2021	09/12/2021	Doubly Linked lists.	CO-3 L-1,L-2,L-3
25	13/12/2021	13/12/2021	Circular linked lists.	CO-3 L-1,L-2,L-3
26	14/12/2021	14/12/2021	header linked lists.	CO-3 L-1,L-2,L-3
27	15/12/2021	15/12/2021	Linked Stacks and Queues.	CO-3 L-1,L-2,L-3
28	16/12/2021	16/12/2021 20/12/2021	Applications of Linked lists – Polynomials.	CO-3 L-1,L-2,L-3
29	20/12/2021	20/12/2021	Sparse matrix representation.	CO-3 L-1,L-2,L-3
30	21/12/2021	22/12/2021 23/12/2021	Programming Examples.	CO-3 L-1,L-2,L-3

3rd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 3)

Module-4

31	22/12/2021	30/12/2021	Trees: Terminology, Binary Trees.	CO-4 L-1,L-2,L-3
32	23/12/2021	03/01/2022	Properties of Binary trees.	CO-4 L-1,L-2,L-3
33	30/12/2021	04/01/2022	Array and linked Representation of Binary Trees.	CO-4 L-1,L-2,L-3
34	03/01/2022	05/01/2022 10/01/2022	Binary Tree Traversals - Inorder, postorder.	CO-4 L-1,L-2,L-3
35	04/01/2022	11/01/2022 12/01/2022	Preorder , Additional Binary tree operations Representation.	CO-4 L-1,L-2,L-3
36	05/01/2022	13/01/2022	Representation.	CO-4 L-1,L-2,L-3
37	06/01/2022	17/01/2022	Threaded binary trees.	CO-4 L-1,L-2,L-3
38	10/01/2022	18/01/2022	Binary Search Trees – Definition, Insertion, Deletion, Traversal, Searching.	CO-4 L-1,L-2,L-3
39	11/01/2022	19/01/2022	Application of Trees-Evaluation of Expression.	CO-4 L-1,L-2,L-3
40	12/01/2022	20/01/2022	Programming Examples.	CO-4 L-1,L-2,L-3

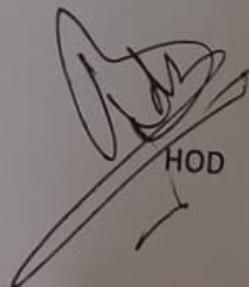
4th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 4)

Module-5

41	13/01/2022	24/01/2022	Graphs: Definitions, Terminologies, Matrix .	CO-5 L-1,L-2,L-3
42	17/01/2022	25/01/2022	Adjacency List Representation Of Graphs.	CO-5 L-1,L-2,L-3
43	18/01/2022	27/01/2022	Elementary Graph operations.	CO-5 L-1,L-2,L-3
44	19/01/2022	31/01/2022	Traversal methods: Breadth First Search and Depth FirstSearch.	CO-5 L-1,L-2,L-3
45	20/01/2022	01/02/2022	Sorting and Searching: Insertion Sort.	CO-5 L-1,L-2,L-3
46	24/01/2022	07/02/2022	Radix sort, Address Calculation Sort.	CO-5 L-1,L-2,L-3
47	25/01/2022	08/02/2022	Hashing: Hash Table organizations,	CO-5 L-1,L-2,L-3
48	27/01/2022	09/02/2022	Files and Their Organization: Data Hierarchy, File Attributes.	CO-5 L-1,L-2,L-3

49	31/01/2022	14/02/22	Text Files and Binary Files	CO-5 L-1,L-2,L-3
50	04/02/2022	15/02/22 16/02/22	Basic File Operations, File Organizations and Indexing	CO-5 L-1,L-2,L-3
5 th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 5)				

V.V.Pati¹
Staff In-Charge



HOD



APS College of Engineering

Somanahalli, Kanakapura Road, Bangalore-82
Department of Information Science and Engineering

Subject Name: **Analog and Digital Electronics**

Subject Code	18CS33	IA Marks	40
Number of Lecture Hours/Week	03	Exam Marks	60
Total Number of Lecture Hours	40	Exam Hours	03
SEMESTER	III	CREDITS	03
Name of the Faculty	Ramya P V	Academic Year	2021-2022

Course Delivery Plan

Period /Hour	Planned Date	Execution Date	Topic / Session topic	CO & REVISED Bloom's Taxonomy
Module-1				
1	25/10/2021	25/10/21	Photodiodes, Light Emitting Diodes and Optocouplers	CO-1 L-1,L-2
2	27/10/2021	26/10/21	BJT Biasing: Fixed bias, Collector to base bias, voltage divider bias	CO-1 L-1, L-2
3	29/10/2021	27/10/21	Operational Amplifier Application Circuits: Multivibrators using IC-555, Peak Detector	CO-1 L-1,L-2
4	30/10/2021	29/10/21	Schmitt trigger, Active Filters, Non-Linear Amplifier	CO-1 L-1,L-2
5	8/11/2021	30/10/21	Relaxation Oscillator, Current-to-Voltage and Voltage-to-current converter	CO-1 L-1,L-2
6	10/11/2021	30/10/21	Regulated Power Supply Parameters	CO-1, L-1,L-2
7	12/11/2021	8/11/2021	Adjustable voltage regulator	CO-1 L-1,L-2
8	13/11/2021	10/11/21	D to A and A to D converter	CO-1 L-1,L-2

1st Assignment Questions: Q.no 1 to Q.no 10 (Refer Question Bank of Module 1)

Module-2				
9	15/11/2021	12/11/21	Karnaugh Maps: Minimum forms of switching functions	CO-2 L-1,L-2
10	16/11/2021	13/11/21	Two and Three variable karnaugh maps	CO-2 L-2,L-3

11	17/11/2021	15 1 1 2	Four variable karnaugh maps, determination of minimum expression using essential prime implicants	CO-2 L-1,L-2
12	18/11/2021	16 1 1 2	Quine-McClusky Method: determination of prime implicants	CO-2 L-1,L-2
13	23/11/2021	16 1 1 2	The prime implicant chart	CO-2 L-1,L-2,L-3
14	29/11/2021	17 1 1 2	Petricks method	CO-2 L-1,L-2
15	24/12/2021	18 1 1 2	Simplification of incompletely specified functions	CO-2 L-1,L-2
16	2/12/2021	18 1 1 2	Simplification using map-entered variables	CO-2 L-1,L-2

2nd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 2)

Module-3

17	1/12/2021	23 1 1 2	Combinational circuit design and simulation using gates: Review of Combinational circuit design, design of circuits with limited Gate Fan- in	CO-3 L-1, L-2
18	2/12/2021	29 1 1 2	Gate delays and Timing diagrams	CO-3 L-1, L-2
19	3/12/2021	1 1 2 2	Hazards in Combinational Logic	CO-3 L-1, L-2
20	6/12/2021	2 1 2 2	Simulation and testing of logic circuits	CO-3 L-1, L-2
21	8/12/2021	2 1 2 2	Multiplexers, Decoders and Programmable Logic Devices: Multiplexers, three state buffers	CO-3 L-1, L-2
22	10/12/2021	3 1 2 2	Decoders and encoders	CO-3 L-1, L-2
23	11/12/2021	6 1 2 2	Programmable Logic devices, Programmable Logic Arrays	CO-3 L-1, L-2
24	13/12/2021	16 1 2 2	Programmable Array logic	CO-3 L-1, L-2

3rd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 3)

Module-4

25	15/12/2021	11 1 2 2	Introduction to VHDL: VHDL description of combinational circuits	CO-4 L-1, L-2
26	17/12/2021	13 1 2 2	VHDL Models for multiplexers, VHDL Modules	CO-4 L-1,L-2
27	20/12/2021	15 1 2 2	Latches and Flip-Flops: Set Reset Latch, Gated	CO-4

			Latches	L-1, L-2
28	22/12/2021	17 12 22	Edge-Triggered D Flip Flop 3	CO-4, L-1, L-2
29	31/12/2021	20 12 22	SR Flip Flop, JK Flip Flop	CO-4 L-1, L-2
30.	3/1/2022	31 12 22	T Flip-Flop	CO-4 L-1, L-2
31	7/1/2022	21 12 22	Flip Flop with additional inputs	CO-4 L-1, L-2
32	8/1/2022	3 02 22	Asynchronous Sequential Circuits	CO-4 L-1, L-2

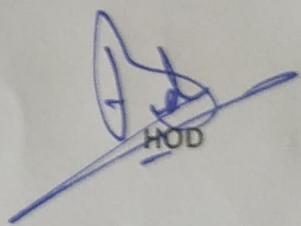
4th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 4)

Module-5

33	10/1/2022	7 04 22	Registers and Counters: Registers and Register Transfers	CO-5 L-1, L-2
34	12/1/2022	8 01 22	Parallel Adder with accumulator	CO-5, L-1, L-2
35	14/1/2022	10 1 22	Shift registers	CO-5 L-1, L-2
36	17/1/2022	12 1 22	Design of Binary counters	CO-5 L-1, L-2
37	19/1/2022	14 1 22	Counters for other sequences	CO-5 L-1, L-2
38	24/1/2022	17 1 22	Counter design using SR and JK Flip Flops	CO-5 L-1, L-2
39	29/1/2022	19 1 22	Sequential parity checker	CO-5, L-1,L-2
40	7/2/2022	29 1 22	State tables and graphs	CO-5 L-1,L-2

5th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 5)

PPV
Staff In-Charge



HOD



APS College of Engineering

Somanahalli, Kanakapura Road, Bangalore-82
Department of Information Science and Engineering

Subject Name: Computer Organization

Subject Code	18CS34	IA Marks	40
Number of Lecture Hours/Week	03	Exam Marks	60
Total Number of Lecture Hours	40	Exam Hours	03
SEMESTER	III	CREDITS	03
Name of the Faculty	Shruthi B S	Academic Year	2019-20

Course Delivery Plan

Period /Hour	Planned Date	Execution Date	Topic / Session topic	CO & REVISED Bloom's Taxonomy
Module-1				
1	18/10/2021	25/10/21	Basic Structure of Computers: Computer Types, Functional Units	CO-1 L-1, L-2
2	22/10/2021	26/10/21	Basic Operational Concepts, Bus Structures	CO-1 L-2
3	25/10/2021	27/10/21	Performance – Processor Clock, Basic Performance Equation	CO-1 L-2
4	26/10/2021	28/10/21	Clock Rate, Performance Measurement,	CO-1 L-2, L-3
5	27/10/2021	29/10/21	Machine Instructions and Programs: Memory Location and Addresses, Memory Operations, Instructions and Instruction Sequencing	CO-1 L-1, L-2
6	29/10/2021	29/10/21	Addressing Modes	CO-1 L-2
7	2/11/2021	2/11/21	Assembly Language, Basic Input and Output Operations, Stacks and Queues	CO-1 L-2
8	8/11/2021	8/11/21	Subroutine, Additional Instructions, Encoding of Machine Instructions	CO-1 L-2
9	9/11/2021	9/11/21		

1st Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 1)

Module-2

9	10/11/2021	10/11/21	Input/Output Organization: Accessing I/O Devices,	CO-2 L-2
10	12/11/2021	12/11/21	Interrupts– Interrupt Hardware	CO-2 L-2
11	15/11/2021	15/11/21	Enabling and Disabling Interrupts	CO-2 L-2

12	16/11/2021	16 11 2 1	Handling Multiple Devices	CO-2 L-2
13	17/11/2021	17 11 2 1	Controlling Device Requests Exceptions	CO-2 L-2
14	19/11/2021	20 11 2 1	Direct Memory Access, Buses	CO-2 L-2
15	23/11/2021	23 11 2 1	Interface Circuits	CO-2 L-2
16	24/11/2021	24 11 2 1	Standard I/O Interfaces – PCI Bus, SCSI Bus, USB	CO-2 L-2

2nd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 2)

Module-3

17	29/11/2021	30 11 2 1	Memory System: Basic Concepts	CO-3 L-2
18	30/11/2021	1 12 2 1	Semiconductor RAM Memories	CO-3 L-2
19	1/12/2021	3 12 2 1	Read Only Memories, Speed, Size, and Cost	CO-3 L-2
20	3/12/2021	6 12 2 1	Cache Memories – Mapping Functions	CO-3 L-2
21	6/12/2021	7 12 2 1	Replacement Algorithms	CO-3 L-2
22	7/12/2021	8 12 2 1	Performance Considerations	CO-3 L-2
23	8/12/2021	9 12 2 1	Virtual Memories	CO-3 L-3
24	10/12/2021	10 12 2 1	Secondary Storage	CO-3 L-2

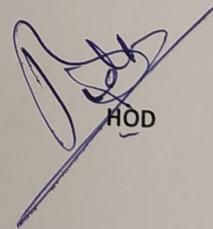
3rd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 3)

Module-4

25	13/12/2021	13 12 2 1	Arithmetic: Numbers	CLO-5 L-3
26	14/12/2021	14 12 2 1	Arithmetic Operations and Characters	CO-4 L-3
24	15/12/2021	15 12 2 1	Addition and Subtraction of Signed Numbers	CO-4 L-3
28	17/12/2021	17 12 2 1	Design of Fast Adders	CO-4 L-3
29	20/12/2021	20 12 2 1	Multiplication of Positive Numbers	CO-4 L-3
30	21/12/2021	21 12 2 1 22 12 2 1	Signed Operand Multiplication , Fast Multiplication	CO-4 L-3
31	22/12/2021	23 12 2 1	Integer Division	CO-4, L-3

32	24/12/2021	24/12/21 21/12/21	Floating-point Numbers and Operations	CO-4 L-3
4th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 4)				
33	31/12/2021	4/1/22 4/1/22	Basic Processing Unit: Some Fundamental Concepts	CO-5 L-2
34	3/1/2022	5/1/22 5/1/22	Execution of a Complete Instruction	CO-5 L-2
35	4/1/2022	7/1/22	Multiple Bus Organization	CO-5 L-2
36	5/1/2022	10/1/22 11/1/22	Hard-wired Control, Microprogrammed Control	CO-5 L-2
37	7/1/2022	14/1/22	Embedded Systems and Large Computer Systems	CO-5 L-2
38	10/1/2022	17/1/22	Examples of Embedded Systems	CO-5 L-2
39	11/1/2022	18/1/22	Pipelining: Basic concepts of pipelining,	CO-5 L-2
40	12/1/2022	21/1/22	Basic concepts of pipelining	CO-5 L-2
5th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 5)				

B.S
Staff In-Charge



HOD



APS College of Engineering

Somanahalli, Kanakapura Road, Bangalore-82
Department of Information Science and Engineering

Subject Name: Software Engineering

Subject Code	18CS35	IA Marks	40
Number of Lecture Hours/Week	03	Exam Marks	60
Total Number of Lecture Hours	40	Exam Hours	03
SEMESTER	III	CREDITS	03
Name of the Faculty	Shravya S	Academic Year	2021-22

Lesson Delivery Plan

Period /Hour	Planned Date	Execution Date	Topic / Session topic	CO & REVISED Bloom's Taxonomy
Module-1				
1	2/11/2021	2/11/2021	Introduction: Software Crisis, Need for Software Engineering.	CO-1 L-1,L-2
2	4/11/2021	4/11/2021	Professional Software Development, Software Engineering Ethics.	CO-1 L-2
3	8/11/2021	8/11/2021	Case Studies	CO-1 L-3
4	9/11/2021	9/11/2021	Software Processes: Models: Waterfall Model, Incremental Model	CO-1 L-1,L-2
5	10/11/2021	10/11/2021	Spiral Mode, Process activities.	CO-1 L-1,L-2
6	11/11/2021	11/11/2021	Requirements Engineering: Requirements Engineering Processes	CO-1, L-1,L-2
7	13/11/2021 15/11/2021	13/11/2021	Requirements Elicitation and Analysis , Functional and non-functional requirements	CO-1 L-1
8	16/11/2021 17/11/2021	15/11/2021 16/11/2021	The software Requirements Document Requirements Specification, Requirements validation, Requirements Management	CO-1 L-1

1st Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 1)

Module-2			
9	18/11/2021	17/11/2021	Introduction, Modelling Concepts and Class Modelling: What is Object orientation? What is OO development?

10	23/11/2021	18/11/2021	OO Themes	CO-2 L-2,L-3
11	24/11/2021	23/11/2021	Evidence for usefulness of OO development	CO-2 L-1,L-2
12	29/11/2021	24/11/2021	OO modelling history.	CO-2 L-1,L-2
13	30/11/2021	29/11/2021	Modelling as Design technique: Modelling, abstraction	CO-2 L-1,L-2,L-3
14	1/12/2021	30/11/2021	The Three models, Class Modelling: Object and Class Concept	CO-2 L-1,L-2
15	2/12/2021 6/12/2021	1/12/2021	Link and associations concepts	CO-2 L-1
16	7/12/2021	1/12/2021	Generalization and Inheritance, A sample class model	CO-2 L-1

2nd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 2)

<u>Module-3</u>				
17	8/12/2021	2/12/2021	System Models: Context models	CO-3 L-1, L-2
18	9/12/2021 11/12/2021	6/12/2021	Interaction model, Structural models, Behavioral models	CO-3 L-1, L-2
19	13/12/2021	7/12/2021	Model-driven engineering	CO-3 L-1, L-2
20	14/12/2021	8/12/2021	Design and Implementation: Introduction to RUP	CO-3 L-1, L-2
21	15/12/2021	9/12/2021	Design Principles	CO-3 L-1, L-2
22	16/12/2021 20/12/2021	11/12/2021 13/12/2021	Object-oriented design using the UML Design patterns	CO-3 L-1, L-2, L-3
23	21/12/2021	14/12/2021	Implementation issues Open source development	CO-3 L-1, L-2, L-3
24	22/12/2021	15/12/2021 16/12/2021	Implementation issues Open source development	CO-3 L-1, L-2, L-3

3rd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 3)

<u>Module-4</u>				
25	23/12/2021	20/12/2021	Software Testing: Development testing	CO-4 L-1, L-2
26	30/12/2021	22/12/2021	Test-driven development, Release testing	CO-4 L-2, L-3
27	3/1/2022 4/1/2022	23/12/2021	User testing, Test Automation	CO-4 L-1, L-2

28	5/1/2022	30/12/2021 03/1/2022	Software Evolution: Evolution processes	CO-4, L-1, L-2
29	6/1/2022	5/1/2022 6/1/2022	Program evolution dynamics	CO-4 L-1, L-2, L-3
30.	8/1/2022	8/1/2022	Program evolution dynamics ,Software maintenance	CO-4 L-1, L-2
31	10/1/2022	10/1/2022 11/1/2022	Software maintenance	CO-4 L-1, L-2
32	11/1/2022 12/1/2022	13/1/2022 17/1/2022	Legacy system management	CO-4 L-1, L-2

4th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 4)

Module-5

33	13/1/2022	18/1/2022 20/1/2022	Project Planning: Software pricing	CO-5 L-1, L-2
34	17/1/2022 18/1/2022	22/1/2022 24/1/2022	Plan-driven development	CO-5, L-2, L-3
35	19/1/2022	23/1/2022 27/1/2022	Project scheduling	CO-5 L-1, L-2
36	20/1/2022 22/1/2022	29/1/2022	Estimation techniques	CO-5 L-1, L-2
37	24/1/2022	7/2/2022 9/2/2022	Quality management: Software quality	CO-5 L-1, L-2, L-3
38	25/1/2022	14/2/2022	Reviews and inspections	CO-5 L-1, L-2
39	27/1/2022	21/2/2022	Software measurement and metrics	CO-5, L-1
40	29/1/2022	23/02/2022	Software standards	CO-5 L-1

5th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 5)

Shrawya S
15/12/21
Staff In-Charge


HOD
Head of the Department
Dept. of IS & E
APS College of Engineering
BANGALORE - 560 482.

Department of Mathematics

Lesson plan and Lesson delivery details

Discrete Mathematical Structures

[As per Choice Based Credit System (CBCS) scheme]

SEM- III
Year: 2021-2022

Name of the Faculty: K.S. Anand
Section: III ISE

Subject Code	18CS36	IA Marks	40
Number of Lecture Hours/Week	03	Exam Marks	60
Total Number of Lecture Hours	40	Exam Hours	03
Credits 03			

Course objectives:

This course will enable students to:

CLO1: Provide theoretical foundations of computer science to perceive other courses in the programme.

CLO2: Illustrate applications of discrete structures: logic, relations, functions, set theory and counting

CLO3: Understand and analyze Relations and Functions.

CLO4: Describe different mathematical proof techniques and solve counting problems.

CLO5: Illustrate the importance of graph theory in computer science.

Course outcomes:

After studying this course, students will be able to

CO1: Use propositional and predicate logic in knowledge representation and truth verification.

CO2: Demonstrate the application of discrete structures in different fields of computer science.

CO3: Solve problems using recurrence relations and generating functions..

CO4: Application of different mathematical proofs techniques in proving theorems in the courses.

CO5: Apply the concepts of matrices and determinants to diagonalization and factorization.

Text Book				
1	Discrete and Combinatorial Mathematics	Ralph P. Grimaldi:	5th Edition, Pearson Education.	2004

Module 1: Fundamentals of Logic

Lecture	Planned Date	Execution Date	Topic / Session topic	Pertaining CO & BTL	Instructional Method/Activity
1	21/10/21	21/10	Basics of Logic	L1,CO1	Black board
2	22/10/21	26/10	Truth tables, Problems	L3, CO1	Black board
3	23/10/21	28/10	Logical equivalences, problems	L1,CO1	Black board
4	26/10/21	29/10	Laws of Logic, problems	L1,CO1	Black board
5	28/10/21	30/11	Rules of inference, problems	L1,CO1	Black board
6	29/10/21	8/11	Rules of inference, problems	L1,CO1	Black board
7	30/10/21	9/11	Introductions to quantifiers	L1,CO1	Black board
8	2/11/21	9/11	Problems on quantifiers	L3, CO1	Black board
9	4/11/21	16/11	Methods of Proof, problems	L3, CO1	Black board
10	9/11/21	17/11	Methods of proof, problems	L3, CO1	Black board

Module 2: Properties of integers and principles of counting I

Lecture	Planned Date	Execution Date	Topic / Session topic	Pertaining CO & BTL	Instructional Method/Activity
1	11/11/21	18/11	Introduction to Induction	L1,CO2	Black board
2	12/11/21	23/11	Problems on induction	L3,CO2	Black board
3	13/11/21	30/11	Problems on induction	L3,CO2	Black board
4	16/11/21	7/12	Problems on induction	L3,CO2	Black board
5	18/11/21	3/12	Problems on induction	L3,CO2	Black board
6	19/11/21	7/12	Problems on counting	L3,CO2	Black board
7	23/11/21	8/12	Problems on counting	L3,CO2	Black board
8	30/11/21	9/12	Problems on counting Problems on binomial and multinomial theorems	L3,CO2	Black board

Module 5: Graph Theory					
Lecture	Planned Date	Execution Date	Topic / Session topic	Pertaining CO & BTL	Instructional Method/ Activity
1	2/12/21	10/12	Introduction to Graph Theory		Black board
2	3/12/21	11/12	Graph Isomorphism		Black board
3	7/12/21	14/12	Graph Isomorphism		Black board
4	9/12/21	16/12	Problems/Theorems on fundamental theorem of Graph Theory		Black board
5	10/12/21	17/12	Theorems and problems on Trees	—	Black board
6	11/12/21	17/12	Problems on Sorting		Black board
7	14/12/21	18/12	Problems on prefix codes		Black board
8	16/12/21	22/12, 23/12	Miscellaneous problems	—	Black board

Module 4: Principles of Counting - II					
Lecture	Planned Date	Execution Date	Topic / Session topic	Pertaining CO & BTL	Instructional Method/ Activity
1	17/12/21	23/12	Problems on counting	L3, CO4	Black board
2	21/12/21	24/12	Problems on counting	L3, CO4	Black board
3	22/12/21	30/12	Problems on counting	L3, CO4	Black board
4	23/12/21	4/1	Problems on Rook polynomials	L3, CO4	Black board
5	24/12/21	5/1	Problems on Rook polynomials	L3, CO4	Black board
6	25/12/21	6/1	Problems on Derangements	L3, CO4	Black board
7	30/12/21	7/1, 7/1	Problems on second order Recurrence relations	L3, CO4	Black board
8	31/12/21	11/1	Problems on second order Recurrence relations	L3, CO4	Black board
9	4/1/22	19/1	Problems on second order Recurrence relations	L3, CO4	Black board
10	6/1/22	29/1	Problems on first order Recurrence relations	L3, CO4	Black board

Module 3: Relations and Functions					
Lecture	Planned Date	Execution Date	Topic / Session topic	Pertaining CO & BTL	Instruction Method/Activity
1	7/1/22	29/1	Problems on Cartesian product	L1,L3 , CO3	Black board
2	8/1/22	16/2, 27/2	Theorems and problems on Relations	L1,L3 , CO3	Black board
3	11/1/22	24/2	Theorems and problems on Relations	L1,L3 , CO3	Black board
4	13/1/22	25/2	Theorems and problems on Relations	L1,L3 , CO3	Black board
5	14/1/22	1/3	Problems on partial order, Hasse diagram.	L1,L3 , CO3	Black board
6	18/1/22	3/3	Theorems and problems on Functions	L1,L3 , CO3	Black board
7	20/1/22	4/3, 4/3	Theorems and problems on Functions	L1,L3 , CO3	Black board
8	21/1/22	7/3	Theorems and problems on Functions	L1,L3 , CO3	Black board
9	22/1/22	7/3	Theorems and problems on Functions	L1,L3 , CO3	Black board
10	25/1/22	8/3	Theorems and problems on Functions	L1,L3 , CO3	Black board

M.S. Aneel

Faculty

M.S.R.

HOD

APS College of Engineering, Somanahalli, Bengaluru-82

Department of Information Science & Engineering

[As per Choice Based Credit System (CBCS) scheme]

Sem:3rd

Subject Name: Analog Digital Electronics lab. Year: 2021(Odd)

Name of the Faculty: Ramya P V+Vidya V Patil

Subject Code	18CSL37	IA Marks	40
Number of Lecture Hours/Week	0:2:2	Exam Marks	60
Total Number of Lecture Hours	36	Exam Hours	03
Credits 02			

Course Objective:

CO 1: Develop, design, observe and analyze simple analog and digital electronic circuits.

CO 2 : Acquire experience in building and troubleshooting simple analog and digital electronic circuits.

CO 3: Simulate simple analog and digital electronic circuits.

CO 4: Present developed simple analog and digital electronic circuits.

CO 5: Acquire practical knowledge on different digital electronic devices and instruments.

Period	Batch	Planned Date	Execution Date	Topic / Session topic	Pertaining CO/CLOs& BLT	Instructional Methods / Activities
1	B1	22/10/2021	22/10/21	Introduction to Analog and Digital Electronics Basics	CO 1 CO 3 L3	Black Board/Execution
2	B1	29/10/2021	29/10/21	Design an astable multivibrator circuit for three cases of duty cycle (50%, <50% and >50%) using NE 555 timer IC. Simulate the same for any one duty cycle.	CO 1 CO 3 L3	Black Board/Execution
3	B1	12/11/2021	12/11/21 19/11/21	Using ua 741 Opamp, design a 1 kHz Relaxation Oscillator with 50% duty cycle. And simulate the same.	CO 1 CO 3 L3	Black Board/Execution
4	B1	19/11/2021	3/12/21	Using ua 741 opamp, design a window comparator for any given UTP and LTP. And simulate the same	CO 1 CO 3 L3	Black Board/Execution
5	B1	3/12/2021	10/12/21	Revision		Black Board/Execution
6	B1	10/12/2021	17/12/21	Design and implement Half adder, Full Adder, Half Subtractor, Full Subtractor using basic gates. And implement the same in HDL..	CO 1 CO 3 L3	Black Board/Execution

7	B1	17/12/2021	24/12/21	Design and implement Half adder, Full Adder, Half Subtractor, Full Subtractor using basic gates. And implement the same in HDL.	CO 1 CO 3 L3	Black Board/Execution
8	B1	24/12/2021	31/12/21	Given a 4-variable logic expression, simplify it using appropriate technique and realize the simplified logic expression using 8:1 multiplexer IC. And implement the same in HDL.	CO 1 CO 3 L3	Black Board/Execution
9	B1	31/12/2021	7/1/21	Realize a J-K Master / Slave Flip-Flop using NAND gates and verify its truth table. And implement the same in HDL.	CO 1 CO 3 L3	Black Board/Execution
10	B1	7/01/2022	14/1/21	Design and implement code converter I)Binary to Gray (II) Gray to Binary Code using basic gates.	CO 1 CO 4 L3	Black Board/Execution
11	B1	14/01/2022	21/1/22	Design and implement a mod-n (n<8) synchronous up counter using J-K Flip-Flop ICs and demonstrate its working.	CO 1 CO 4 L3	Black Board/Execution
12	B1	21/01/2022	28/1/22	Design and implement an asynchronous counter using decade counter IC to count up from 0	CO 1 CO 4 L3	Black Board/Execution
13	B1	28/01/2022	4/2/22	Revision		
14	B1	04/02/2022	12/2/22	Internal Assesment		

RPN
Staff In charge



HOD

APS College of Engineering, Somanahalli, Bengaluru-82
Department of Information Science & Engineering
[As per Choice Based Credit System (CBCS) scheme]

Sem:3rd

Name of the Faculty: Vidya V Patil + Shravya S

Year: 2021(Odd)

Subject Code	18CSL38	IA Marks	40
Total Number of Lecture Hours	36	Exam Hours	03
Credits 02			

Course Objective:

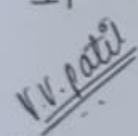
- CO1: Analyze and compare various linear and non-linear data structure.
- CO2: Linear Code, debug and demonstrate the working nature of different types of data structure and their applications.
- CO3: Implement, analyze and evaluate the searching and sorting algorithms.
- CO4: Choose the appropriate data structure for solving real world problems.
- CO4: Identify and apply data structure concepts to solve real world problems.

Period	Planned Date	Execution Date	Topic / Session topic	Pertaining CO/CLOs& BLT	Instructional Methods / Activities
1	27/10/2021	27/10/2021	Design, Develop and Implement a menu driven Program in C for the following array operations. a. Creating an array of N Integer Elements b. Display of array Elements with Suitable Headings c. Inserting an Element (ELEM) at a given valid Position (POS) d. Deleting an Element at a given valid Position (POS) e. Exit. Support the program with functions for each of the above operations.	CO1	Black Board/Execution
2	10/11/2021	10/11/2021	Design, Develop and Implement a Program in C for the following operations on Strings. a. Read a main String (STR), a Pattern String (PAT) and a Replace String (REP) b. Perform Pattern Matching Operation: Find and Replace all occurrences of PAT in STR with REP if PAT exists in STR. Report suitable messages in case PAT does not exist in STR. Support the program with functions for each of the above operations. Don't use Built-in functions.	CO1	Black Board/Execution

3	24/11/2021	24/11/2021	<p>Design, Develop and Implement a menu driven Program in C for the following operations on STACK of Integers (Array Implementation of Stack with maximum size MAX)</p> <ul style="list-style-type: none"> a. Push an Element on to Stack b. Pop an Element from Stack c. Demonstrate how Stack can be used to check Palindrome d. Demonstrate Overflow and Underflow situations on Stack e. Display the status of Stack f. Exit <p>Support the program with appropriate functions for each of the above operations</p>	CO2	Black Board/Execution
4	01/12/2021	01/12/2021	<p>Design, Develop and Implement a Program in C for converting an Infix Expression to Postfix Expression. Program should support for both parenthesized and free parenthesized expressions with the operators: +, -, *, /, % (Remainder), ^ (Power) and alphanumeric Operands.</p>	CO2	Black Board/Execution
5	01/12/2021	08/12/2021	<p>Design, Develop and Implement a Program in C for the following Stack Applications</p> <ul style="list-style-type: none"> a. Evaluation of Suffix expression with single digit operands and operators: +, -, *, /, %, a. ^ b. Solving Tower of Hanoi problem with n disks 	CO2	Black Board/Execution
6	08/12/2021	08/12/2021	<p>Design, Develop and Implement a menu driven Program in C for the following operations on Circular QUEUE of Characters (Array Implementation of Queue with maximum size MAX)</p> <ul style="list-style-type: none"> a. Insert an Element on to Circular QUEUE b. Delete an Element from Circular QUEUE c. Demonstrate Overflow and Underflow situations on Circular QUEUE d. Display the status of Circular QUEUE e. Exit <p>Support the program with appropriate functions for each of the above operations</p>	CO2	Black Board/Execution
7	15/12/2021	15/12/2021	<p>Design, Develop and Implement a menu driven Program in C for the following operations on Singly Linked List (SLL) of Student Data with the fields: USN, Name, Programme, Sem, PhNo</p> <ul style="list-style-type: none"> a. Create a SLL of N Students Data by using front insertion. 	CO3	Black Board/Execution

			b. Display the status of SLL and count the number of nodes in it c. Perform Insertion / Deletion at End of SLL d. Perform Insertion / Deletion at Front of SLL(Demonstration of stack) e. Exit		
8	05/01/2021	22/12/2021	Design, Develop and Implement a menu driven Program in C for the following operations on Doubly Linked List (DLL) of Employee Data with the fields: <i>SSN, Name, Dept, Designation, Sal, PhNo</i> a. Create a DLL of N Employees Data by using <i>end insertion</i> . b. Display the status of DLL and count the number of nodes in it c. Perform Insertion and Deletion at End of DLL d. Perform Insertion and Deletion at Front of DLL e. Demonstrate how this DLL can be used as Double Ended Queue. f. Exit	CO3	Black Board/Execution
9	12/01/2021	05/02/21	Design, Develop and Implement a Program in C for the following operations on Singly Circular Linked List (SCLL) with header nodes a. Represent and Evaluate a Polynomial $P(x,y,z) = 6x^2y^2z - 4yz^5 + 3x^3yz + 2xy^5z - 2xyz^3$ b. Find the sum of two polynomials POLY1(x,y,z) and POLY2(x,y,z) and store the result in POLYSUM(x,y,z) Support the program with appropriate functions for each of the above operations	CO3	Black Board/Execution
10	19/01/2021	12/01/21	Design, Develop and Implement a menu driven Program in C for the following operations on Binary Search Tree (BST) of Integers . a. Create a BST of N Integers: 6, 9, 5, 2, 8, 15, 24, 14, 7, 8, 5, 2 b. Traverse the BST in Inorder, Preorder and Post Order c. Search the BST for a given element (KEY) and report the appropriate message d. Exit	CO4	Black Board/Execution

11	09/02/2021	19/01/21	<p>Design, Develop and Implement a Program in C for the following operations on Graph(G) of Cities</p> <ul style="list-style-type: none"> a. Create a Graph of N cities using Adjacency Matrix. b. Print all the nodes reachable from a given starting node in a digraph using DFS/BFSmethod 	COS	Black Board/Execution
12	16/02/2021	09/02/21	<p>Given a File of N employee records with a set K of Keys (4-digit) which uniquely determine the records in file F. Assume that file F is maintained in memory by a Hash Table (HT) of m memory locations with L as the set of memory addresses (2-digit) of locations in HT. Let the keys in K and addresses in L are Integers. Design and develop a Program in C that uses Hash function H: K \rightarrow L as $H(K)=K \text{ mod } m$ (remainder method), and implement hashing technique to map a given key K to the address space L. Resolve the collision (if any) using linear probing.</p>	COS	Black Board/Execution
13	23/02/2021	23/02/21	Revision		
14	14/03/21	14/03/21	Lab Interval		



Signature of Staff



Signature of HOD



APS College of Engineering
 Somanahalli, Kanakapura Road, Bangalore-82
Department of Computer Science and Engineering

Subject Name: Management and Entrepreneurship for IT Industry

Subject Code	18CS51	IA Marks	40
Number of Lecture Hours/Week	04	Exam Marks	60
Total Number of Lecture Hours	50	Exam Hours	03
Semester	V	Credits	04
Name of the Faculty	Dr. Kumar B I D	Academic Year	2020-21

Course Delivery Plan

Period /Hour	Planned Date	Execution Date	Topic / Session topic	CO & REVISED Bloom's Taxonomy
<u>Module-1</u>				
1	1-10-2021	1-10-2021	Introduction to Management and Entrepreneurship Concepts, objectives & COs.	CO-1, L-2
2	4-10-2021	4-10-2021	Meaning, nature and characteristics of management, scope and Functional areas of management, goals of management	CO-1, L-2
3	5-10-2021	5-10-2021	a brief overview of the evolution of management theories	CO-1, L-1
4	8-10-2021	8-10-2021	levels of management and Skill set Required	CO-1, L-3
5	9-10-2021	9-10-2021	Planning- Nature, importance	CO-1, L-2
6	11-10-2021	10-10-2021	Types of plans, steps in planning	CO-1, L-3
7	12-10-2021	11-10-2021	Organizing- nature and purpose types of Organization	CO-1, L-2
8	21-10-2021	21-10-2021	Staffing- meaning, the process of recruitment and selection	CO-1, L-2
9	23-10-2021	23-10-2021	Communication- Meaning and importance	CO-1, L-2
10	25-10-2021	25-10-2021	Revision	
<u>Module-2</u>				
11	26-10-2021	26/10/2021	Directing and controlling- Introduction meaning and nature of directing	CO-1, L-2
12	28-10-2021	28/10/2021	leadership Skills	CO-1, L-2
13	30-10-2021	29/10/2021	leadership styles	CO-1, L-3
14	02-11-2021	30/10/2021	motivation Theories – X & Y Theory , Maslow's Need theory	CO-1, L-3

15	04-11-2021	8-11-2021	Introduction to Communication	CO-1, L-2
16	08-11-2021	9-11-2021	Importance of Communication	CO-1, L-2
17	09-11-2021	11-11-2021	Coordination- meaning and importance	CO-1, L-2
18	11-11-2021	12-11-2021	Steps in Controlling	CO-1, L-3
19	13-11-2021	13-11-2021	Methods of establishing control	CO-1, L-3
20	18-11-2021		Revision	

1st Assignment Questions: covering 1st & Second Module

Module-3

21	23-11-2021	18/11/2021	Entrepreneur – meaning of entrepreneur, characteristics of entrepreneurs	CO-1, L-2
22	29-11-2021	28/11/2021	classification and types of entrepreneurs	CO-1, L-1
23	30-11-2021	25/11/2021	Stages in the entrepreneurial process	CO-1, L-3
24	2-12-2021	29/11/2021	The role of entrepreneurs in economic development	CO-1, L-2
25	6-12-2021	2/12/2021	Entrepreneurship in India and barriers to entrepreneurship	CO-1, L-2
26	7-12-2021	6/12/2021	Identification of business opportunities	CO-1, L-2
27	9-12-2021	7/12/2021	Market feasibility study	CO-1, L-2
28	11-12-2021	9/12/2021	Technical feasibility study	CO-1, L-2
29	13-12-2021	10/12/2021	Financial feasibility study	CO-1, L-2
30	14-12-2021	13/12/2021	Social feasibility study	CO-1, L-2

Module-4

31	16-12-2021	16/12/2021	Preparation of project and ERP – meaning of project, project identification	CO-2, L-2
32	23-12-2021	20/12/2021	Project selection & Project report	CO-2, L-2
33	27-12-2021	21/12/2021	Need and significance of project report, contents & formulation	CO-2, L-2
34	28-12-2021	22/12/2021	Guidelines by planning commission for project report	CO-2, L-2
35	30-12-2021	24/12/2021	Enterprise Resource Planning: Meaning and Importance- ERP	CO-2, L-2
36	3-1-2022	27/12/2021	Functional areas of Management Sales Marketing - Supply Chain Management	CO-2, L-2
37	4-1-2022	28/12/2021	Finance and Accounting	CO-2, L-2
38	6-1-2022	31/12/2021	Human Resources	CO-2, L-2

39	8-1-2022	9/1/2022	- Types of reports and methods of report generation	CO-2, L-3
40	10-1-2022	10/1/2022	Revision	

2nd Assignment Questions: Covering 3rd & 4th Modules

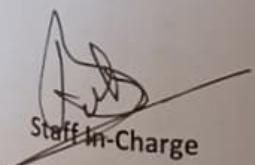
Module-5

41	11-1-2022	8/1/2022	Micro and Small Enterprises: Definition of micro and small enterprises, characteristics,	CO-3, L-1
42	12-1-2022	10/1/2022	Advantages of micro and small enterprises	CO-3, L-1
43	13-1-2022	11/1/2022	Steps in establishing micro and small enterprises	CO-3, L-3
44	17-1-2022	12/1/2022	Government of India industrial policy 2007 on micro and small enterprises.	CO-3, L-1
45	18-1-2022	13/1/2022	Case studies on Microsoft, Deccan Airlines , Captain G R Gopinath, N R Narayana Murthy & Infosys	CO-3, L-3
46	19-1-2022	17/1/2022	Institutional support: MSME-DI, NSIC,	CO-3, L-1
47	24-1-2022	19/1/2022	SIDBI, KIADB, KSSIDC, TECSOK	CO-3, L-1
48	25-1-2022	24/1/2022	KSFC, DIC and District level single window agency	CO-3, L-1
49	27-1-2022	25/1/2022	Introduction to IPR and its types	CO-3, L-2
50	28-1-2022	—	Revision	

3rd Assignment Questions: Remaining Portions

Course outcomes: The students should be able to:

1. Define management, organization, entrepreneur, planning, staffing, ERP and outline their importance in entrepreneurship
2. Utilize the resources available effectively through ERP
3. Make use of IPRs and institutional support in entrepreneurship



Staff In-Charge



HOD



APS College of Engineering

Somanahalli, Kanakapura Road, Bangalore-82
Department of Information Science and Engineering

Subject Name: COMPUTER NETWORKS AND SECURITY

Subject Code	18CS52	IA Marks	40
Number of Lecture Hours/Week	04	Exam Marks	60
Total Number of Lecture Hours	50	Exam Hours	03
SEMESTER	V	CREDITS	04
Name of the Faculty	Shruthi B S	Academic Year	2021-22

Course Delivery Plan

Period /Hour	Planned Date	Execution Date	Topic / Session topic	CO & REVISED Bloom's Taxonomy
Module-1				
1	4/10/2021	7/10/21	Application Layer: Principles of Network Applications: Network Application Architectures.	CO-1 L-1, L-2
2	5/10/2021	8/10/21	Processes Communicating, Transport Services Available to Applications.	CO-1 L-1, L-2
3	7/10/2021	9/10/21	Transport Services Provided by the Internet, Application-Layer Protocols.	CO-1 L-1, L-2
4	11/10/2021	11/10/21	The Web and HTTP: Overview of HTTP, Non-persistent and Persistent Connections.	CO-1 L-2
5	12/10/2021	11/10/21 12/10/21	HTTP Message Format, User-Server Interaction: Cookies, Web Caching, The Conditional GET.	CO-1 L-2
6	13/10/2021	13/10/21	File Transfer: FTP Commands & Replies, Electronic Mail in the Internet: SMTP.	CO-1 L-2
7	18/10/2021	21/10/21	Comparison with HTTP, Mail Message Format, Mail Access Protocols, DNS.	CO-1 L-2
8	21/10/2021	22/10/21	The Internet's Directory Service: Services Provided by DNS, Overview of How DNS Works.	CO-1 L-2
9	25/10/2021	23/10/21	DNS Records and Messages, Peer-to-Peer Applications: P2P File Distribution, Distributed Hash tables.	CO-1 L-2
10	26/10/2021	26/10/21	Socket Programming: creating Network Applications: Socket Programming with UDP, Socket Programming with TCP.	CO-2 L-2, L-3
1st Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 1)				

<u>Module-2</u>				
11	27/10/2021	27/10/21	Transport Layer: Introduction and Transport-Layer Services: Relationship Between Transport and Network Layers.	CO-2 L-1, L-2
12	28/10/2021	28/10/21	Overview of the Transport Layer in the Internet, Multiplexing and Demultiplexing: Connectionless Transport: UDP.	CO-2 L-1, L-2
13	2/11/2021	2/11/21	UDP Segment Structure, UDP Checksum, Principles of Reliable Data Transfer: Building a Reliable Data Transfer Protocol.	CO-2 L-1, L-2
14	4/11/2021	8/11/21	Pipelined Reliable Data Transfer Protocols, Go-Back-N.	CO-2 L-1, L-2
15	8/11/2021	9/11/21	Selective repeat, Connection-Oriented Transport TCP: The TCP Connection.	CO-2 L-1, L-2
16	9/11/2021	10/11/21	TCP Segment Structure, Round-Trip Time Estimation and Timeout.	CO-2 L-1, L-2
17	10/11/2021	11/11/21	Reliable Data Transfer, Flow Control	CO-2, L-1, L-2
18	11/11/2021	12/11/21	TCP Connection Management, Principles of Congestion Control: The Causes and the Costs of Congestion	CO-2 L-1, L-2
19	18/11/2021	18/11/21	Approaches to Congestion Control, Network-assisted congestion-control example.	CO-2 L-1, L-2, L-3
20	23/11/2021	23/11/21	ATM ABR Congestion control, TCP Congestion Control: Fairness.	CO-2 L-1, L-2, L-3
<u>2nd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 2)</u>				
<u>Module-3</u>				
21	24/11/2021	25/11/21	The Network layer: What's Inside a Router? : Input Processing.	CO-3 L-1, L-2
22	25/11/2021	25/11/21	Switching, Output Processing.	CO-3 L-1, L-2
23	29/11/2021	29/11/21	Where Does Queuing Occur? Routing control plane.	CO-3 L-1, L-2
24	30/11/2021	30/11/21	IPv6, A Brief foray into IP Security.	CO-3 L-1, L-2
25	1/12/2021	2/12/21	Routing Algorithms: The Link-State (LS) Routing Algorithm.	CO-3 L-1, L-2
26	2/12/2021	3/12/21 6/12/21	The Distance-Vector (DV) Routing Algorithm, Hierarchical Routing.	CO-3 L-1, L-2, L-3
27	6/12/2021	7/12/21 8/12/21	Routing in the Internet, Intra-AS Routing in the Internet: RIP.	CO-3 L-1, L-2
28	7/12/2021	9/12/21	Intra-AS Routing in the Internet: OSPF.	CO-3, L-1, L-2
29	8/12/2021	13/12/21	Inter/AS Routing: BGP.	CO-3, ,L-1, L-2

30.	9/12/2021	14/12/21	Broadcast and Multicast Routing: Broadcast Routing Algorithms and Multicast.	CO-3 L-1, L-2, L-3
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3rd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 3)

Module-4

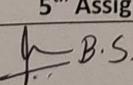
31	13/12/2021	15/12/21	Overview of Network Security Elements of Network Security, Classification of Network Attacks,	CO-4 L-1, L-2
32	14/12/2021	16/12/21	Security Methods, Symmetric-Key Cryptography	CO-4 L-2, L-3
33	15/12/2021	17/12/21	Data Encryption Standard (DES), Advanced Encryption Standard (AES) ,.	CO-4 L-1, L-2, L-3
34	16/12/2021	21/12/21	Public-Key Cryptography: RSA Algorithm	CO-4 L-1, L-2
35	23/12/2021	23/12/21	Diffie-Hellman Key-Exchange Protocol	CO-4, L-1, L-2
36	27/12/2021	31/12/21	Authentication: Hash Function	CO-4 L-1, L-2, L-3
37	28/12/2021	4/1/22	Secure Hash Algorithm (SHA)	CO-4 L-1, L-2, L-3
38	29/12/2021	5/1/22	Digital Signatures	CO-4, L-1, L-2
39	30/12/2021	6/1/22	Firewalls and Packet Filtering	CO-4, L-1, L-2
40	3/1/2022	10/1/22	Packet Filtering, Proxy Server	CO-4, L-1, L-2

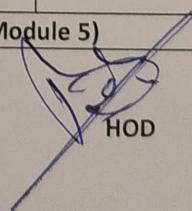
4th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 4)

Module-5

41	4/1/2022	11/1/22	Multimedia Networking Applications: Properties of video, properties of Audio.	CO-5 L-1, L-2
42	5/1/2022	17/1/22	Types of multimedia Network Applications.	CO-5, L-1, L-2
43	6/1/2022	18/1/22	Streaming stored video: UDP Streaming.	CO-5, L-1, L-2
44	10/1/2022	19/1/22	HTTP Streaming.	CO-5, L-1, L-2
45	11/1/2022	20/1/22	Adaptive streaming and DASH.	CO-5, L-2
46	12/1/2022	20/1/22	Content distribution Networks, case studies: Netflix.	CO-5 L-1, L-2, L-3
47	13/1/2022	20/1/22	You Tube and Kankan.	CO-5, L-2, L-3
48	17/1/2022	31/1/22	Network Support for Multimedia: Dimensioning Best-Effort Networks.	CO-5 L-2
49	18/1/2022	1/2/22	Providing Multiple Classes of Service, Diffserv.	CO-5 L-2
50	19/1/2022	3/2/22	Per-Connection Quality-of- Service (QoS) Guarantees: Resource Reservation and Call Admission.	CO-5 L-2

5th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 5)


Staff In-Charge


HOD



APS College of Engineering

Somanahalli, Kanakapura Road, Bangalore-82
Department of Information Science and Engineering

Subject Name: Database Management System

Subject Code	18CS53	IA Marks	40
Number of Lecture Hours/Week	3:2:0	Exam Marks	60
Total Number of Lecture Hours	50	Exam Hours	03
SEMESTER	V	CREDITS	04
Name of the Faculty	Shravya S	Academic Year	2021-22

Lesson Delivery Plan

Period /Hour	Planned Date	Execution Date	Topic / Session topic	CO & REVISED Bloom's Taxonomy
Module-1				
1	4/11/2021	4/11/2021	Introduction to Database: Introduction, Characteristics of database approach	CO-1 L-1,L-2
2	10/11/2021	10/11/2021	Advantages of using DBMS approach, History of database approach	CO-1 L-1,L-2
3	10/11/2021	10/11/2021	Overview of Database Language and Architecture: Data models	CO-1 L-1,L-2
4	11/11/2021	11/11/2021	Schemes and Instances	CO-1 L-1,L-2
5	12/11/2021	12/11/2021	Three schema architecture and data independence	CO-1 L-1,L-2
6	13/11/2021	13/11/2021	Database languages and interfaces, The database system environment	CO-1 L-1,L-2
7	13/11/2021	13/11/2021	Conceptual Data Modelling using Entities and Relationship: Entity types, Entity sets	CO-1 L-1,L-2
8	18/11/2021	18/11/2021	Attributes, roles and structural constraints	CO-1 L-1,L-2
9	19/11/2021	19/11/2021	ER Diagram examples	CO-1 L-1,L-2
10	23/11/2021	23/11/2021	Specialization and Generalization	CO-1 L-1,L-2
1st Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 1)				
Module-2				
11	24/11/2021	24/11/2021	Relational model: Relational Model Concepts	CO-2 L-1,L-2,L-3
12	24/11/2021	24/11/2021	Relational Model Constraints and relational database schemas	CO-2 L-1,L-2,L-3

13	25/11/2021	25/11/2021	Update operations	CO-2 L-1,L-2,L-3
14	26/11/2021	26/11/2021	Transactions and dealing with constraint violations	CO-2 L-1,L-2,L-3
15	27/11/2021	27/11/2021	Relational Algebra: Unary and binary operations	CO-2 L-1,L-2,L-3
16	27/11/2021	27/11/2021	Additional relational operations(aggregation, grouping) and examples of queries in relational algebra	CO-2 L-1,L-2,L-3
17	1/12/2021	1/12/2021	Mapping Conceptual Design into a Logical Design: Relational Database Design using ER-to-Relational mapping	CO-2 L-1,L-2,L-3
18	1/12/2021	1/12/2021	SQL: SQL data definition and data types	CO-2 L-1,L-2,L-3
19	2/12/2021	2/12/2021	Specifying constraints in SQL, retrieval queries in SQL, INSERT statement	CO-2 L-1,L-2,L-3
20	3/12/2021	2/12/2021	DELETE and UPDATE statements, Additional features of SQL	CO-2 L-1,L-2,L-3

2nd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 2)

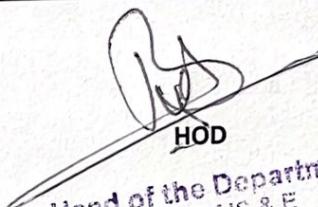
Module-3				
21	8/12/2021	3/12/2021	SQL: Advances queries: More complex SQL retrieval queries	CO-3 L-1,L-2,L-3
22	8/12/2021	8/12/2021	Specifying constraints as assertions and action triggers	CO-3 L-1,L-2,L-3
23	9/12/2021	9/12/2021	Views in SQL	CO-3 L-1,L-2,L-3
24	10/12/2021	10/12/2021	Schema change statements in SQL	CO-3 L-1,L-2,L-3
25	11/12/2021	11/12/2021	Database Application Development: Accessing database from applications	CO-3 L-1,L-2,L-3
26	11/12/2021	15/12/2021	An introduction to JDBC, JDBC classes and interfaces,	CO-3 L-1,L-2,L-3
27	15/12/2021	16/12/2021	Introduction to SQLJ, Stored procedures	CO-3 L-1,L-2,L-3
28	15/12/2021	17/12/2021	Case study: The internet Bookshop	CO-3 L-1,L-2,L-3
29	16/12/2021	17/12/2021	Internet Applications: The three-tier application architecture	CO-3 L-1,L-2,L-3
30.	17/12/2021	23/12/2021	The presentation layer, The Middle Tier	CO-3 L-1,L-2,L-3

3rd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 3)

<u>Module-4</u>				
31	23/12/2021	24/12/2021	Normalization: Database Design Theory – Introduction to Normalization using Functional and Multi values dependencies: Informal design guidelines for relational schema	CO-4 L-1,L-2,L-3
32	24/12/2021	30/12/2021	Functional Dependencies, Normal Forms based on Primary keys	CO-4 L-1,L-2,L-3
33	25/12/2021	31/12/2021	Second and third normal forms, Boyce- Codd Normal Form	CO-4 L-1,L-2,L-3
34	29/12/2021	5/1/2022	Multivalued dependency and Fourth Normal Form	CO-4 L-1,L-2,L-3
35	29/12/2021	6/1/2022	Join Dependencies and Fifth Normal Form	CO-4 L-1,L-2,L-3
36	30/12/2021	7/01/2022	Normalization Algorithms: Inference Rules, Equivalence	CO-4 L-1,L-2,L-3
37	31/12/2021	10/01/2022	Minimal Cover, Properties of Relational Decompositions	CO-4 L-1,L-2,L-3
38	5/1/2022	12/01/2022	Algorithms for Relational Database Schema Design	CO-4 L-1,L-2,L-3
39	5/1/2022	12/01/2022	Nulls, Dangling tuples, and alternate Relational Designs	CO-4 L-1,L-2,L-3
40	6/1/2022	13/01/2022	Further discussion of multivalued dependencies and Normal Forms	CO-4 L-1,L-2,L-3
4th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 4)				
<u>Module-5</u>				
41	7/1/2022	14/01/2022	Transaction Processing: Introduction to Transaction Processing, Transaction and system concepts	CO-4 L-1,L-2,L-3
42	8/1/2022	17/01/2022	Desirable properties of Transactions, Characterizing schedules based on recoverability	CO-4 L-1,L-2,L-3
43	8/1/2022	17/01/2022	Characterizing schedules based on Serializability, Transaction support in SQL	CO-4 L-1,L-2,L-3
44	12/1/2022	19/01/2022	Concurrency Control in Databases; Two-phase locking techniques for concurrency control	CO-4 L-1,L-2,L-3
45	12/1/2022	22/01/2022	Concurrency control based on Time-stamp ordering, Multi version Concurrency control techniques	CO-4 L-1,L-2,L-3
46	13/1/2022	22/01/2022	Validation Concurrency control techniques, Granularity of Data items and Multi Granularity Locking	CO-4 L-1,L-2,L-3
47	14/1/2022	28/01/2022	Introduction to Database Recovery Protocols: Recovery concepts	CO-4 L-1,L-2,L-3

48	14/1/2022	28/01/2022	NO-UNDO / REDO recovery based on deferred update, Recovery techniques based on immediate update	CO-4 L-1,L-2,L-3
49	19/1/2022	29/01/2022	Shadow paging	CO-4 L-1,L-2,L-3
50	19/1/2022	29/01/2022	Database backup and recovery from catastrophic failures	CO-4 L-1,L-2,L-3
5th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 5)				

~~Shrawan S.~~
Staff In-Charge



HOD
Head of the Department
Dept. of IS & E
APS College of Engineering
BANGALORE - 560 052.



APS College of Engineering

Somanahalli, Kanakapura Road, Bangalore-82
Department of Information Science and Engineering

Subject Name: Automata Theory and Computability

Subject Code	18CS54	CIE Marks	40
Number of Lecture Hours/Week	3:0:0	SEE Marks	60
Total Number of Lecture Hours	40	Exam Hours	03
SEMESTER	V	CREDITS	03
Name of the Faculty	VIDYA V PATIL	Academic Year	2020-21

Course Delivery Plan

Period /Hour	Planned Date	Execution Date	Topic / Session topic	CO & REVISED Bloom's Taxonomy
Module-1				
1	25/10/2021	25/10/2021	Why study the Theory of Computation, Languages and Strings: Strings, Languages.	CO-1 L-1,L-2
2	26/10/2021	26/10/2021	A Language Hierarchy, Computation.	CO-1 L-1,L-2
3	29/10/2021	29/10/2021	Finite State Machines (FSM): Deterministic FSM, Regular languages, Designing FSM.	CO-1 L-1,L-2
4	30/10/2021	30/10/2021	Nondeterministic FSMs, From FSMs to Operational Systems.	CO-1 L-1,L-2
5	02/11/2021	02/11/2021	Simulators for FSMs.	CO-1 L-1,L-2
6	08/11/2021	08/11/2021	Minimizing FSMs.	CO-1 L-1,L-2
7	09/11/2021	09/11/2021	Canonical form of Regular languages.	CO-1 L-1,L-2
8	12/11/2021	12/11/2021	Finite State Transducers, Bidirectional Transducers.	CO-1 L-1,L-2

1st Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 1)

Module-2

9	13/11/2021	13/11/2021	Regular Expressions (RE): what is a RE?, Kleene's theorem.	CO-2 L-1,L-2,L-3
10	19/11/2021	19/11/2021	Applications of REs.	CO-2 L-1,L-2,L-3
11	23/11/2021	23/11/2021	Manipulating and Simplifying REs.	CO-2 L-1,L-2,L-3
12	26/11/2021	26/11/2021	Regular Grammars: Definition, Regular Grammars and Regular languages.	CO-2 L-1,L-2,L-3

13	27/11/2021	29/11/2021	Regular Languages (RL) and Non-regular Languages: How many RLs.	CO-2 L-1,L-2,L-3
14	29/11/2021	30/11/2021	To show that a language is regular	CO-2 L-1,L-2,L-3
15	30/11/2021	03/12/2021	Closure properties of RLs.	CO-2 L-1,L-2,L-3
16	03/12/2021	06/12/2021	To show some languages are not RLs.	CO-2 L-1,L-2,L-3

2nd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 2)

Module-3

17	06/12/2021	7/12/2021	Context-Free Grammars(CFG): Introduction to Rewrite Systems and Grammars.	CO-3 L-1,L-2,L-3
18	07/12/2021	10/12/2021	CFGs and languages, designing CFGs.	CO-3 L-1,L-2,L-3
19	10/12/2021	11/12/2021	simplifying CFGs, proving that a Grammar is correct.	CO-3 L-1,L-2,L-3
20	11/12/2021	12/12/2021	Derivation and Parse trees, Ambiguity, Normal Forms.	CO-3 L-1,L-2,L-3
21	13/12/2021	20/12/2021	Pushdown Automata (PDA): Definition of non-deterministic PDA.	CO-3 L-1,L-2,L-3
22	14/12/2021	21/12/2021	Deterministic and Non-deterministic PDAs.	CO-3 L-1,L-2,L-3
23	17/12/2021	34/12/2021	Non- determinism and Halting, alternative equivalent definitions of a PDA, Non-deterministic PDAs.	CO-3 L-1,L-2,L-3
24	24/12/2021	9/1/2022	Alternatives that are not equivalent to PDA.	CO-3 L-1,L-2,L-3

3rd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 3)

Module-4

25	27/12/2021	28/12/2021	Algorithms and decision procedures for CFLs: Decidable questions.	CO-4 L-1,L-2,L-3
26	28/12/2021	31/12/2021	Un-decidable questions.	CO-4 L-1,L-2,L-3
27	31/12/2021	03/01/2022	Turing Machine: Turing machine model.	CO-4 L-1,L-2,L-3
28	03/01/2022	04/01/2022	Representation.	CO-4 L-1,L-2,L-3
29	04/01/2022	07/01/2022	Language acceptability by TM.	CO-4 L-1,L-2,L-3
30	07/01/2022	08/01/2022	Design of TM.	CO-4 L-1,L-2,L-3
32	08/01/2022	10/01/2022	The model of Linear Bounded automata.	CO-4 L-1,L-2,L-3

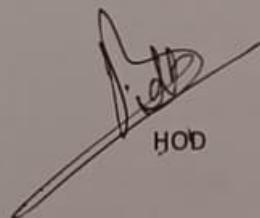
4th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 4)

Module-5

33	10/01/2022	14 01 22	Decidability: Definition of an algorithm, decidability.	CO-5 L-1,L-2,L-3
34	11/01/2022	17 01 22 18 01 22	decidable languages, Undecidable languages.	CO-5 L-1,L-2,L-3
35	14/01/2022	24 01 22	halting problem of TM, Post correspondence problem.	CO-5 L-1,L-2,L-3
36	17/01/2022	25 01 22	Post correspondence problem.	CO-5 L-1,L-2,L-3
37	18/01/2022	28 01 22	Complexity: Growth rate of functions, the classes of P and NP.	CO-5 L-1,L-2,L-3
38	24/01/2022	28 01 22	Quantum Computation: quantum computers, Church- Turing thesis.	CO-5 L-1,L-2,L-3
39	25/01/2022	29 01 22	Applications: G.1 Defining syntax of programming language	CO-5 L-1,L-2,L-3
40	28/01/2022	29 01 22	Appendix J: Security	CO-5 L-1,L-2,L-3

5th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 5)

V.V. Patil
Staff In-Charge



HOD



APS College of Engineering

Somanahalli, Kanakapura Road, Bangalore-82
Department of Information Science and Engineering

Subject Name: Application Development using Python

Subject Code	18CS55	IA Marks	40
Number of Lecture Hours/Week	03	Exam Marks	60
Total Number of Lecture Hours	40	Exam Hours	03
SEMESTER	V	CREDITS	03
Name of the Faculty	S B Nandeeswar	Academic Year	2021-22

Lesson Delivery Plan

Period	Planned Date	Execution Date	Topic / Session topic	Pertaining CO and BTL	Instructional Methods / Activities
Module-1					
1	1/10/2021	1/10/21	Python Basics:Entering Expressions into the Interactive Shell	CO-1 L-1,L-2	Black Board/PPT
2	5/10/2021	5/10/21	The Integer, Floating-Point, and String Data Types, String Concatenation and Replication	CO-1 L-2	Black Board/PPT
3	8/10/2021	8/10/21	Storing Values in Variables, Your First Program, Dissecting Your Program,	CO-1 L-3	Black Board/PPT
4	9/10/2021	9/10/21	Flow control:Boolean Values, Comparison Operators, Boolean Operators,Mixing Boolean and Comparison Operators	CO-1 L-1,L-2	Black Board/PPT
5	12/10/2021	10/10/21	Elements of Flow Control, Program Execution, Flow Control Statements, Importing Modules,Ending a Program Early with sys.exit(),	CO-1 L-1,L-2	Black Board/PPT
6	13/10/2021	11/10/21	Functions:def Statements with Parameters, Return Values and return Statements	CO-1, L-1,L-2	Black Board/PPT
7	22/10/2021	22/10/21	The None Value, Keyword Arguments and print(), Local and Global Scope	CO-1 L-1	Black Board/PPT
8	23/10/2021	23/10/21	The global Statement, Exception Handling, A Short Program: Guess the Number,	CO-1 L-1	Black Board/PPT

1st Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 1)

Module-2					
9	26/10/2021	26/10/21	Lists,The List Data Type, Working with Lists, Augmented Assignment Operators,Methods	CO-2 L-1,L-2	Black Board/PPT

10	27/10/2021	27/10/21	Example Program: Magic 8 Ball with a List,	CO-2 L-2,L-3	Black Board/PPT
11	29/10/2021	29/10/21	List-like Types: Strings and Tuples, References	CO-2 L-1,L-2	Black Board/PPT
12	30/10/2021	30/10/21	Dictionaries and Structuring Data, The Dictionary Data Type	CO-2 L-1,L-2	Black Board/PPT
13	2/11/2021	3/11/21	Pretty Printing, Using Data Structures to Model Real-World Things	CO-2 L-1,L-2,L-3	Black Board/PPT
14	8/11/2021	8/11/21	Manipulating Strings, Working with Strings, Useful String Methods	CO-2 L-1,L-2	Black Board/PPT
15	9/11/2021	9/11/21	Project: Password Locker	CO-2 L-1	Black Board/PPT
16	12/11/2021	12/11/21	Project: Adding Bullets to Wiki Markup	CO-2 L-1	Black Board/PPT

2nd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 2)

Module-3

17	13/11/2021	13/11/21	Pattern Matching with Regular Expressions, Finding Patterns of Text Without Regular Expressions, Finding Patterns of Text with Regular Expressions	CO-3 L-1, L-2	Black Board/PPT
18	19/11/2021	19/11/21	More Pattern Matching with Regular Expressions, Greedy and Nongreedy Matching, The findall() Method, Character Classes, Making Your Own Character Classes	CO-3 L-1, L-2	Black Board/PPT
19	22/11/2021	22/11/21	The Caret and Dollar Sign Characters, The Wildcard Character, Review of Regex Symbols, Case-Insensitive Matching, Substituting Strings with the sub() Method, Managing Complex Regexes, Combining re.IGNORECASE, re.DOTALL, and re.VERBOSE, Project: Phone Number and Email Address Extractor,	CO-3 L-1, L-2	Black Board/PPT
20	24/11/2021	24/11/21	Reading and Writing Files, Files and File Paths, The os.path Module,	CO-3 L-1, L-2	Black Board/PPT
21	26/11/2021	26/11/21	The File Reading/Writing Process, Saving Variables with the shelve Module, Saving Variables with the pprint.pformat() Function, Project: Generating Random Quiz Files, Project: Multiclipboard	CO-3 L-1, L-2	Black Board/PPT
22	27/11/2021	27/11/21	Organizing Files, The shutil Module, Walking a Directory Tree, Compressing Files with the zipfile Module,	CO-3 L-1, L-2, L-3	Black Board/PPT
23	3/12/2021	3/12/21	Project: Renaming Files with American-Style Dates to European-Style Dates, Project:	CO-3 L-1, L-2,L-3	Black Board/PPT

			Backing Up a Folder into a ZIP File		
24	7/12/2021	7/12/21	Debugging, Raising Exceptions, Getting the Traceback as a String, Assertions, Logging, IDLE's Debugger.	CO-3 L-1, L-2, L-3	Black Board/PPT

3rd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 3)

Module-4

25	8/12/2021	8/12/21	Classes and objects, Programmer-defined types, Attributes	CO-4 L-1, L-2	Black Board/PPT
26	10/12/2021	10/12/21	Rectangles, Instances as return values, Objects are mutable, Copying,	CO-4 L-2, L-3	Black Board/PPT
27	11/12/2021	11/12/21	Classes and functions, Time, Pure functions, Modifiers	CO-4 L-1, L-2	Black Board/PPT
28	14/12/2021	14/12/21	Prototyping versus planning	CO-4, L-1, L- 2	Black Board/PPT
29	15/12/2021	13/12/21	Classes and methods, Object-oriented features, Printing objects, Another example	CO-4 L-1, L-2, L-3	Black Board/PPT
30.	17/12/2021	17/12/21	A more complicated example, The <code>init</code> method, The <code>__str__</code> method, Operator overloading, Type-based dispatch, Polymorphism, Interface and implementation	CO-4 L-1, L-2	Black Board/PPT
31	24/12/2021	24/12/21	Inheritance Card objects, Class attributes, Comparing cards, Decks, Printing the deck, Add, remove	CO-4 L-1, L-2	Black Board/PPT
32	28/12/2021	28/12/21	shuffle and sort, Inheritance, Class diagrams, Data encapsulation	CO-4 L-1, L-2	Black Board/PPT

4th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 4)

Module-5

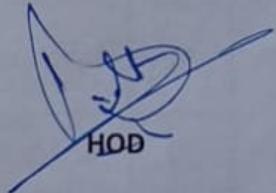
33	29/12/2021	29/12/21	Web Scraping, Project: MAPIT.PY with the webbrowser Module, Downloading Files from the Web with the requests Module, Saving Downloaded Files to the Hard Drive,	CO-5 L-1, L-2	Black Board/PPT
34	31/12/2021	31/12/21	HTML, Parsing HTML with the BeautifulSoup Module, Project: "I'm Feeling Lucky"	CO-5, L-2, L- 3	Black Board/PPT
35	4/1/2022	4/1/22	Google Search, Project: Downloading All XKCD Comics, Controlling the Browser with the selenium Module,	CO-5 L-1, L-2	Black Board/PPT

36	5/1/2022	5/1/22	Working with Excel Spreadsheets, Excel Documents, Installing the openpyxl Module, Reading Excel Documents,	CO-5 L-1, L-2	Black Board/PPT
37	7/1/2022	7/1/22	Project: Reading Data from a Spreadsheet, Writing Excel Documents, Project: Updating a Spreadsheet, Setting the Font Style of Cells, Font Objects, Formulas, Adjusting Rows and Columns, Charts,	CO-5 L-1, L-2, L-3	Black Board/PPT
38	8/1/2022	8/1/22	Working with PDF and Word Documents, PDF Documents, Project: Combining Select Pages from Many PDFs, Word Documents,	CO-5, L-1	Black Board/PPT
39	11/1/2022	11/1/22	Working with CSV files and JSON data, The csv Module, Project: Removing the Header from CSV Files, JSON and APIs, The json Module	CO-5, L-1	Black Board/PPT
40	12/1/2022	12/1/22	Project: Fetching Current Weather Data	CO-5 L-1	Black Board/PPT

5th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 5)

Mamta Dhap
12/1/22

Staff In-Charge



HOD

APS College of Engineering, Somanahalli, Bengaluru-82

Dept of Electronics and Communication Engineering

UNIX PROGRAMMING

[As per Choice Based Credit System (CBCS) scheme]

SEMESTER -V

Name of the Faculty: Pallavi H B

Year: 2020-2021

Subject Code	18CS56	IA Marks	40
Number of Lecture Hours/Week	3:0:0	Exam Marks	60
Total Number of Lecture Hours	40	Exam Hours	03
Credits 03			

Course objectives:

This course will enable students to:

CO1: Explain Unix Architecture, File system and use of Basic Commands

CO2: Illustrate Shell Programming and to write Shell Scripts

CO3: Categorize, compare and make use of Unix System Calls

CO4 :Ability to understand and reason out the working of Unix Systems

CO5: Build an application/service over a Unix system

Course Delivery Plan

Period	Planned Date	Engaged Date	Topic / Session topic	Pertaining CO & BTL	Instructional Methods / Activities
1	04/10/2021	04/10/2021	Module 1: Introduction: Unix Components/Architecture. Features of Unix. The UNIX Environment and UNIX Structure, Posix and Single Unix specification	CO-1 BTL-1	Black Board
2	7/10/2021	07/10/2021	General features of Unix commands/ command structure. Command arguments and options	CO-1 CO-2	Black Board
3	9/10/2021	09/10/2021	Basic Unix commands such as echo, printf, ls, who, date,passwd, cal, Combining commands. Meaning of Internal and external commands	CO-1 CO-2 BTL-1	Black Board
4	11/10/2021	11/10/2021	The type command: knowing the type of a command and locating it. The root login. Becoming the super user: su command	CO-2 BTL-2	Black Board

5	21/10/2021	21/10/2021	Unix files: Naming files. Basic file types/categories. Organization of files. Hidden files. Standard directories. Parent child relationship	CO-2 CO-3 BTL-2	Black Board
6	22/10/2021	22/10/2021	The home directory and the HOME variable. Reaching required files- the PATH variable, manipulating the PATH, Relative and absolute pathnames	CO-3 BTL-3	Black Board
7	25/10/2021	27/10/2021	Directory commands – pwd, cd, mkdir, rmdir commands. The dot(.) and double dots(..) notations to represent present and parent directories and their usage in relative path names	CO-1 CO-2 BTL-1 BTL-2	Black Board
8	27/10/2021	28/10/2021	File related commands – cat, mv, rm, cp, wc and od commands	CO-1 CO-2 BTL-1	Black Board

Assignment 1: Answer module 1 questions 1 to 5 from question bank and completed assignment to be submitted by

9	28/10/2021	29/10/2021	Module 2: File attributes and permissions: The ls command with options. Changing file permissions: the relative and absolute permissions changing methods	CO-1 CO-2 BTL-1	Black Board
10	29/10/2021	04/11/2021	Recursively changing file permissions. Directory permissions.	CO-1, CO-2 BTL-1, BTL-2	Black Board
11	04/11/2021	08/11/2021	The shells interpretive cycle: Wild cards. Removing the special meanings of wild cards. Three standard files and redirection	CO-1 CO-2 BTL-1	Black Board
12	8/11/2021	10/11/2021	Connecting commands: Pipe. Basic and Extended regular expressions. The grep, egrep. Typical examples involving different regular expressions.	CO-1 CO-2 BTL-1	Black Board
13	10/11/2021	11/11/2021	Shell programming: Ordinary and environment variables. The .profile. Read and readonly commands. Command line arguments. exit and exit status of a	CO-1 CO-2 BTL-1	Black Board

			.profile. Read and readonly commands. Command line arguments. exit and exit status of a command	BTL-1	
14	11/11/2021	11/11/2021	Logical operators for conditional execution. The test command and its shortcut.	CO-1 CO-2 BTL-1	
15	12/11/2021	12/11/2021	The if, while, for and case control statements. The set and shift commands and handling positional parameters	CO-1 CO-2 BTL-1	Black Board
16	18/11/2021	18/11/2021	The here (<<) document and trap command. Simple shell program examples.	CO-2 CO-3 BTL-2 BTL-3	Black Board

Assignment 2: Answer module 2 questions 3 to 7 from question bank and completed assignment to be submitted by

17	19/11/2021	19/11/2021	Module 3: UNIX File APIs: General File APIs, File and Record Locking,	CO-1 CO-2 BTL-1	Black Board
18	24/11/2021	24/11/2021	Directory File APIs, Device File APIs, FIFO File APIs, Symbolic Link File APIs.	CO-1 BTL-1	Black Board
19	25/11/2021	25/11/2021	UNIX Processes and Process Control: The Environment of a UNIX Process: Introduction, main function	CO-1 CO-2 BTL-1 BTL-2	
20	26/11/2021	26/11/2021	Process Termination, Command-Line Arguments, Environment List	CO-1 CO-2 BTL-1 BTL-2	Black Board
21	29/11/2021	29/11/2021	, Memory Layout of a C Program, Shared Libraries, Memory Allocation, Environment Variables, setjmp and longjmp Functions,	CO-1 BTL-1	Black Board
22	01/12/2021	01/12/2021	08 getrlimit, setrlimit Functions, UNIX Kernel Support for Processes	CO-1 CO-2 BTL-1 BTL-2	Black Board
23	06/12/2021	06/12/2021	Process Control: Introduction, Process Identifiers	CO-1 CO-2 BTL-1 BTL-2	Black Board
24	08/12/2021	08/12/2021	fork, vfork, exit, wait, waitpid, wait3, wait4	CO-1 CO-2	Black Board

			Functions, Race Conditions, exec Functions	BTL-1 BTL-2	
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Assignment 3: Answer module 3 questions 1 to 5 from question bank and completed assignment to be submitted by

25	09/12/2021	09/12/21	Module 4: Changing User IDs and Group IDs	CO-1 CO-2 BTL-1 BTL-2	Black Board
26	13/12/2021	13/12/2021	Interpreter Files, system Function	CO-1 CO-2 BTL-1 BTL-2	Black Board
27	15/12/2021	15/12/21	Process Accounting	CO-2 CO-3 BTL-2 BTL-3	Black Board
28	16/12/2021	16/12/2021	User Identification, Process Times, I/O Redirection	CO-2 BTL-2	Black Board
29	17/12/2021	17/12/21	Overview of IPC Methods, Pipes, popen, pclose Functions,	CO-1 BTL-1	Black Board
30	23/12/2021 27/12/2021	23/12/21 27/12/21	Coprocesses, FIFOs, System V IPC, Message Queues, Semaphores	CO-2 BTL-2	Black Board
31	29/12/2021	29/12/21	Shared Memory, Client-Server Properties, Stream Pipes, Passing File Descriptors	CO-2 BTL-2	Black Board
32	30/12/2021 31/12/2021	30/12/21 31/12/21	An Open Server-Version 1, Client-Server Connection Functions.	CO-2 BTL-2	Black Board

Assignment 4: Answer module 4 questions 1 to 5 from question bank and completed assignment to be submitted by

33	3/01/2022	03/01/22	Module 5: Signals and Daemon Processes: Signals: The UNIX Kernel Support for Signals	CO-2 BTL-2	Black Board
34	5/01/2022	5/01/2022	signal, Signal Mask	CO-1 BTL-1	Black board
35	6/01/2022	06/01/2022	sigaction	CO-2 BTL-2	Black board
36	7/01/2022 10/01/2022	07/01/2022	The SIGCHLD Signal and the waitpid Function	CO-2 BTL-2	Black Board
37	12/01/2022	10/01/2022	The sigsetjmp and siglongjmp Functions	CO-1 BTL-1	Black Board
38	13/01/2022	12/01/2022	Kill, Alarm, Interval Timers, POSIX.lb Timers	CO-2 BTL-2	Black Board

39	14/01/2022 17/01/2022	13/01, 14/01	Daemon Processes: Introduction, Daemon Characteristics	CO-2 BTL-2	Black Board
40	19/01/2022	17/01, 19/01/22	Coding Rules, Error Logging, Client-Server Model.	CO-1 BTL-1	Black Board

Assignment 5: Answer module 5 questions 3 to 7 from question bank and completed assignment to be submitted by

Faculty

H.O.D

APS College of Engineering, Somanahalli, Bengaluru-82
Department of Information Science & Engineering
[As per Choice Based Credit System (CBCS) scheme]

Sem:5th

Year: 2021(Odd)

Name of the Faculty: Shruthi B S + Ramya P V

Subject Code	18CSL57	IA Marks	40
Number of Lecture Hours/Week	0:2:2	Exam Marks	60
Total Number of Lecture Hours	36	Exam Hours	03
Credits 02			

Course Objective:

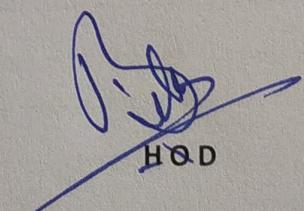
- CO 1:** To introduce network relate command and configuration files in Linux Operating System.
- CO 2 :** Demonstrate operation of network and its management commands
- CO 3:** Design suitable network and simulate using a Network simulator tool.
- CO 4:** Simulate and demonstrate the performance of GSM and CDMA
- CO 5:** Implement data link layer and transport layer protocols in java Programming language.

Period	Batch	Planned Date	Execution Date	Topic / Session topic	Pertaining CO/CLOs & BLT	Instructional Methods / Activities
1	B1	4/10/2021	4/10/21	Introduction to Basics	CO 1 L3	Black Board/Execution
	B2	5/10/2021	5/10/21			
2	B1	11/10/2021	11/10/21	1. Implement three nodes point – to – point network with duplex links between them. Set the queue size, vary the bandwidth and find the number of packets dropped.	CO 2 CO3 L3	Black Board/Execution
	B2	12/10/2021	12/10/21			
3	B1	18/10/2021	25/10/21	2. Implement transmission of ping messages/trace route over a network topology consisting of 6 nodes and find the number of packets dropped due to congestion.	CO 2 CO3 L3	Black Board/Execution
	B2	26/10/2021	26/10/21			
4	B1	25/10/2021	8/11/21	3. Implement an Ethernet LAN using n nodes and set multiple traffic nodes and plot congestion window for different source / destination. 4. Implement simple ESS and with transmitting nodes in wire-less LAN by simulation and determine the performance with respect to transmission of packets.	CO 2 CO3 L3	Black Board/Execution
	B2	2/11/2021	9/11/21			

5	B1	8/11/2021	29/11/21	5. Implement and study the performance of GSM on NS2/NS3 (Using MAC layer) or equivalent environment.	CO 2 CO3 CO 4 L3	Black Board/Execution
	B2	9/11/2021	23/11/21			
6	B1	29/11/2021	2/12/21	6. Implement and study the performance of CDMA on NS2/NS3 (Using stack called Call net) or equivalent environment.	CO 2 CO3 CO 4 L3	Black Board/Execution
	B2	23/11/2021	3/12/21			
7	B1	6/12/2021	6/12/21	7. Write a program for error detecting code using CRC-CCITT (16- bits).	CO 5 L3	Black Board/Execution
	B2	30/11/2021	7/12/21			
8	B1	13/12/2021	13/12/21	8. Write a program to find the shortest path between vertices using bellman-ford algorithm	CO 5 L3	Black Board/Execution
	B2	7/12/2021				
9	B1	27/12/2021	27/12/21	9. Using TCP/IP sockets, write a client – server program to make the client send the file name and to make the server send back the contents of the requested file if present. Implement the above program using as message queues or FIFOs as IPC channels.	CO 5 L3	Black Board/Execution
	B2	14/12/2021	14/12/21			
10	B1	3/1/2022	3/1/22	10. Write a program on datagram socket for client/server to display the messages on client side, typed at the server side.	CO 5 L3	Black Board/Execution
	B2	28/12/2021	28/12/21			
11	B1	10/1/2022	10/1/22	11. Write a program for simple RSA algorithm to encrypt and decrypt the data.	CO 5 L3	Black Board/Execution
	B2	4/1/2022	4/1/22			
12	B1	17/1/2022	18/1/22	12. Write a program for congestion control using leaky bucket algorithm	CO 5 L3	Black Board/Execution
	B2	11/1/2022	11/1/22			
13	B1	18/1/2021	3/1/22	Revision		
	B2	18/1/2021	20/1/22			
14	B1	24/1/2022	7/2/22	Lab Internals		
	B2	25/1/2022	8/2/22			

Staff In charge

F BS



HOD

APS College of Engineering, Somanahalli, Bengaluru-82
Department of Information Science & Engineering
[As per Choice Based Credit System (CBCS) scheme]

Sem: 5th

Year: 2021(Odd)

Name of the Faculty: Shravya S+ Vidya V Patil

Subject Code	18CSL58	IA Marks	40
Number of Lecture Hours/Week	0:2:2	Exam Marks	60
Total Number of Lecture Hours	36	Exam Hours	03
Credits	02		

Course Objective:

- CO 1:** Foundation knowledge in database concepts, technology and practice to groom students into well-informed database application developers.
- CO 2 :** Strong practice in SQL programming through a variety of database problems.
- CO 3:** Create database application using front-end and back-end DBMS.

Period	Batch	Planned Date	Execution Date	Topic / Session topic	CO & REVISED Bloom's Taxonomy	Instructional Methods / Activities
1	B1	2/11/2021	2/11/2021	Introduction to DBMS Lab and SQL, How to createtables and insert data.	CO 1, CO 2 L-3	Black Board/ Execution
	B2	2/11/2021	2/11/2021			
2	B1	9/11/2021	9/11/2021	a. Explain about how to write simple query	CO 2, CO 3 L-3	Black Board/ Execution
	B2	8/11/2021	8/11/2021			
3	B1	23/11/2021	23/11/2021	1. Library Database: Create the following tables, BOOK,BOOK_AUTHORS,PUBLISHER,BOOK_COPIES ,BOOK_LENDING,LIBRARY_PROGRAMMING. Draw schema diagram and ER diagram. Solve the Queries.	CO 2, CO 3 L-3	Black Board/ Execution
	B2	29/11/2021	29/11/2021			
4	B1	30/11/2021	30/11/2021	2. Library Database Continues.....	CO 2, CO 3 L-3	Black Board/ Execution
	B2	6/12/2021	6/12/2021			
5	B1	7/12/2021	7/12/2021	3. Order Database: Create the following tables, SALESMAN, CUSTOMER, ORDERS. Draw schema diagram and ER diagram.Solve the Queries.	CO 2, CO 3 L-3	Black Board/ Execution
	B2	13/12/2021	13/12/2021			

6	B1	14/12/2021	14/12/2021	4. Order Database Continues...	CO 2, CO 3 L-3	Black Board/ Execution
	B2	17/12/2021	17/12/2021			
7	B1	28/12/2021	14/12/2021	5. Solving the SQL queries	CO 2, CO 3 L-3	Black Board/ Execution
	B2	27/12/2021	17/12/2021			
8	B1	31/12/2021	21/12/2021	6. Movie Database: Create following tables, ACTOR, DIRECTOR, MOVIES, MOVIE_CAST and RATING. Draw schema diagram and ER diagram. Solve the Queries.	CO 2, CO 3 L-3	Black Board/ Execution
	B2	3/1/2022	20/12/2021			
9	B1	4/1/2022	4/1/2022	7. Movie Database continues with Query solving	CO 2, CO 3 CO 4 L-3	Black Board/ Execution
	B2	3/1/2022	3/1/2022			
10	B1	4/1/2022	4/1/2022	8. College Database: Create the following tables, STUDENT, SEMSEC, CLASS, SUBJECT, IAMARKS. Draw schema diagram and ER diagram. Solve the Queries.	CO 2, CO 3 L-3	Black Board/ Execution
	B2	10/1/2022	10/1/2022			
11	B1	11/1/2022	11/1/2022	9. College Database Continues...	CO 2, CO 3 L-3	Black Board/ Execution
	B2	10/1/2022	10/1/2022			
12	B1	11/1/2022	11/1/2022	10. Company Database: Create following tables, EMPLOYEE, DEPARTMENT, DLOCATION and PROJECT WORKS_ON. Draw schema diagram and ER diagram. Solve the Queries.	CO 2, CO 3 L-3	Black Board/ Execution
	B2	17/1/2022	17/1/2022			
13	B1	18/1/2022	17/1/2022	Revision		
	B2	18/1/2022	17/1/2022			
14	B1	24/1/2022	28/1/2022			
	B2	25/1/2022	20/1/2022	Lab Internals		

Shrawan
Staff in charge

HOD

Head of the Department
Dept. of IS & E
APS College of Engineering
BANGALORE - 560 082.



APS College of Engineering

Somanahalli, Kanakapura Road, Bangalore-82
Department of Information Science and Engineering

Subject Name: Artificial Intelligence & Machine Learning

Subject Code	18CS71	IA Marks	40
Number of Lecture Hours/Week	04	Exam Marks	60
Total Number of Lecture Hours	50	Exam Hours	03
SEMESTER	VII	CREDITS	04
Name of the Faculty	S B Nandeeswar	Academic Year	2021-22

Lesson Delivery Plan

Period	Planned Date	Execution Date	Topic / Session topic	Pertaining CO and BTL	Instructional Methods / Activities
<u>Module-1</u>					
1	1/10/2021	1/10/21	What is artificial intelligence?	CO-1 L-1, L-2	Black Board/PPT
2	4/10/2021	4/10/21	Introduction	CO-1 L-1, L-2	Black Board/PPT
3	7/10/2021	7/10/21	Introduction	CO-1 L-1, L-2	Black Board/PPT
4	8/10/2021	8/10/21	Problems	CO-1 L-2	Black Board/PPT
5	11/10/2021	11/10/21	problem spaces and search	CO-1 L-2	Black Board/PPT
6	13/10/2021	13/10/21	problem spaces and search	CO-1 L-2	Black Board/PPT
7	18/10/2021	18/10/21	problem spaces and search	CO-1 L-2	Black Board/PPT
8	21/10/2021	21/10/21	Heuristic search techniques	CO-1 L-2	Black Board/PPT
9	22/10/2021	22/10/21	Heuristic search techniques	CO-1 L-2	Black Board/PPT
10	25/10/2021	25/10/21	Heuristic search techniques	CO-2 L-2, L-3	Black Board/PPT

1st Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 1)

<u>Module-2</u>				
11	27/10/2021	27/10/21	Knowledge representation issues	CO-2 L-1, L-2

12	28/10/2021	28/10/21	Predicate logic	CO-2 L-1, L-2	Black Board/PPT
13	29/10/2021	29/10/21	knowledge using rules.	CO-2 L-1, L-2	Black Board/PPT
14	4/11/2021	4/11/21	Concept Learning: Concept learning task	CO-2 L-1, L-2	Black Board/PPT
15	8/11/2021	8/11/21	Concept learning as search	CO-2 L-1, L-2	Black Board/PPT
16	10/11/2021	10/11/21	Find-S algorithm	CO-2 L-1, L-2	Black Board/PPT
17	11/11/2021	11/11/21	Find-S algorithm	CO-2, L-1, L-2	Black Board/PPT
18	12/11/2021	12/11/21	Candidate Elimination Algorithm	CO-2 L-1, L-2	Black Board/PPT
19	19/11/2021	19/11/21	Candidate Elimination Algorithm	CO-2 L-1, L-2, L-3	Black Board/PPT
20	24/11/2021	24/11/21	Inductive bias of Candidate Elimination Algorithm.	CO-2 L-1, L-2, L-3	Black Board/PPT

2nd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 2)

Module-3

21	25/11/2021	25/11/21	Introduction	CO-3 L-1, L-2	Black Board/PPT
22	26/11/2021	26/11/21	Decision tree representation	CO-3 L-1, L-2	Black Board/PPT
23	29/11/2021	29/11/21	Appropriate problems	CO-3 L-1, L-2	Black Board/PPT
24	1/12/2021	1/12/21	ID3 algorithm	CO-3 L-1, L-2	Black Board/PPT
25	2/12/2021	2/12/21	Artificial Neural Network: Introduction	CO-3 L-1, L-2	Black Board/PPT
26	3/12/2021	3/12/21	NN representation	CO-3 L-1, L-2, L-3	Black Board/PPT
27	6/12/2021	6/12/21	Appropriate problems,	CO-3 L-1, L-2	Black Board/PPT
28	8/12/2021	8/12/21	Perceptron's	CO-3, L-1, L-2	Black Board/PPT
29	9/12/2021	9/12/21	Backpropagation algorithm.	CO-3, , L-1, L-2	Black Board/PPT
30.	10/12/2021	10/12/21	Backpropagation algorithm.	CO-3 L-1, L-2, L-3	Black Board/PPT

3rd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 3)

Module-4

31	13/12/2021	13/12/21	Bayesian Learning: Introduction	CO-4 L-2, L-3	Black Board/PPT
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32	15/12/2021	15/12/21	Bayes theorem	CO-4 L-2, L-3	Black Board/PPT
33	16/12/2021	16/12/21	Bayes theorem and concept learning	CO-4 L-1, L-2	Black Board/PPT
34	17/12/2021	17/12/21	ML and LS error hypothesis	CO-4 L-1, L-2	Black Board/PPT
35	23/12/2021	23/12/21	ML for predicting	CO-4, L-1, L-2	Black Board/PPT
36	24/12/2021	24/12/21	MDL principle	CO-4 L-1, L-2	Black Board/PPT
37	27/12/2021	27/12/21	Bates optimal classifier,	CO-4 L-1, L-2	Black Board/PPT
38	29/12/2021	29/12/21	Gibbs algorithm,	CO-4, L-1, L-2	Black Board/PPT
39	30/12/2021	30/12/21	Navie Bayes classifier	CO-4, L-1, L-2	Black Board/PPT
40	31/12/2021	31/12/21	BBN, EM Algorithm	CO-4, L-1, L-2	Black Board/PPT

4th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 4)

Module-5

41	3/1/2022	3/1/22	Instance-Base Learning: Introduction	CO-5 L-1, L-2	Black Board/PPT
42	5/1/2022	5/1/22	k-Nearest Neighbour Learning	CO-5, L-1, L-2	Black Board/PPT
43	6/1/2022	6/1/22	k-Nearest Neighbour Learning	CO-5, L-1, L-2	Black Board/PPT
44	7/1/2022	7/1/22	Locally weighted regression	CO-5, L-1, L-2	Black Board/PPT
45	10/1/2022	10/1/22	Locally weighted regression	CO-5, L-2	Black Board/PPT
46	12/1/2022	12/1/22	Radial basis function	CO-5 L-1, L-2	Black Board/PPT
47	13/1/2022	13/1/22	Case-Based reasoning.	CO-5, L-2	Black Board/PPT
48	14/1/2022	14/1/22	Reinforcement Learning: Introduction	CO-5 L-2	Black Board/PPT
49	17/1/2022	17/1/22	The learning.	CO-5 L-2	Black Board/PPT
50	19/1/2022	19/1/22	task Q-Learning	CO-5 L-2	Black Board/PPT

5th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 5)

Staff In-Charge

17/1/22

HOD



APS College of Engineering
 Somanahalli, Kanakapura Road, Bangalore-82
Department of Computer Science and Engineering

Subject Name: BIG DATA ANALYTICS

Subject Code	18CS72	IA Marks	40
Number of Lecture Hours/Week	04	Exam Marks	60
Total Number of Lecture Hours	50	Exam Hours	03
Semester	VII	Credits	04
Name of the Faculty	Dr. Kumar B I D	Academic Year	2020-21

Course Delivery Plan

Period /Hour	Planned Date	Execution Date	Topic / Session topic	CO & REVISED Bloom's Taxonomy
Module-1				
1	1-10-2021	1/10/2021	Introduction to Big Data Analytics: Big Data & Characteristics	CO-1, L-1
2	4-10-2021	4/10/2021	Scalability and Parallel Processing	CO-1, L-2
3	5-10-2021	5/10/2021	Designing Data Architecture & Data Sources	CO-1, L-1
4	8-10-2021	8/10/2021	Quality, Pre-Processing and Storing	CO-1, L-2
5	9-10-2021	11/10/2021	Data Storage and Analysis	CO-1, L-1
6	11-10-2021	12/10/2021	Big Data Analytics Applications	CO-2, L-1
7	12-10-2021	13/10/2021	Case Studies Discussion on Health care,	CO-2, L-1
8	21-10-2021	21/10/2021	E-Commerce and other advance Technology	CO-2, L-2
9	23-10-2021	25/10/2021	Big Data in Medicine & Advertising	CO-2, L-2
10	25-10-2021	28/10/2021	Revision	CO-2, L-2

Assignment 1: Assigned to Write on Big Data Technology Tools used in Hadoop Ecosystem

Module-2

11	26-10-2021	(i) 27/10/2021	Introduction to Hadoop (T1): Introduction Hadoop and its Ecosystem	CO-2, L-1
12	28-10-2021	28/10/2021	Hadoop Distributed File System (HDFS)	CO-2, L-1
13	30-10-2021	29/10/2021	MapReduce Framework	CO-2, L-2
14	02-11-2021	8/11/2021	Programming Model	CO-2, L-2

			Hadoop Yarn	
15	04-11-2021	9/11/2021	Hadoop Ecosystem Tools introduction	CO-2, L-2
16	08-11-2021	10/11/2021	Hadoop Distributed File System Basics (T2): HDFS Design Features	CO-2, L-2
17	09-11-2021	11/11/2021	Components, HDFS User Commands.	CO-2, L-2
18	11-11-2021	12/11/2021	Essential Hadoop Tools (T2): Using Apache Pig, Hive & Hive QL	CO-2, L-2
19	13-11-2021	13/11/2021	Sqoop, Flume, Oozie	CO-2, L-3
20	18-11-2021	23/11/2021	HBase & Revision	CO-2, L-4

Module-3

21	23-11-2021	25/11/2021	NoSQL Big Data Management Introduction	CO-2, L-1
22	29-11-2021	26/11/2021	NoSQL Data Store concept	CO-2, L-1
23	30-11-2021	29/11/2021	NoSQL Data Architecture Patterns – key-value pair	CO-2, L-2
24	2-12-2021	30/11/2021	Document store & Tabular Data	CO-2, L-3
25	6-12-2021	1/12/2021 (1)	Object Data Store & Graph Database	CO-2, L-4
26	7-12-2021	2/12/2021	NoSQL to Manage Big Data	CO-2, L-4
27	9-12-2021	3/12/2021	Shared-Nothing Architecture for Big Data Tasks	CO-2, L-5
28	11-12-2021	6/12/2021	MongoDB Databases,	CO-2, L-5
29	13-12-2021	7/12/2021	Cassandra Databases	CO-2, L-6
30	14-12-2021	8/12/2021	Revision	CO-2, L-6

Second Assignment Given on 1st, 2nd, 3rd modules for better understanding

Module-4

31	16-12-2021	9/12/2021	MapReduce v1 & v2 Introduction	CO-2, L-1
32	23-12-2021	10/12/2021	MapReduce Map Tasks, Reduce Tasks and MapReduce Execution	CO-2, L-1
33	27-12-2021	13/12/2021	Application and programming model on MapReduce Task execution	CO-2, L-1
34	28-12-2021	16/12/2021	Composing MapReduce for Calculations and Algorithms	CO-2, L-1
35	30-12-2021	17/12/2021	Example : Counting words problem solving using MapReduce.	CO-2, L-1

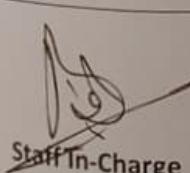
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36	3-1-2022	21/12/2021	Hive Architecture	CO-2, L-1
37	4-1-2022	23/12/2021	Hive Integration with Hadoop Ecosystem	CO-2, L-1
38	6-1-2022	24/12/2021	Introduction to HiveQL commands	CO-2, L-1
39	8-1-2022	27/12/2021	HQL Queries and Example command execution	CO-2, L-1
40	10-1-2022	28/12/2021	Pig Execution & Revision	CO-2, L-1

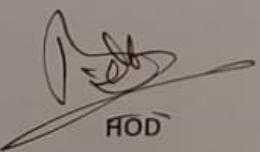
Module-5

41	11-1-2022	30/12/2021	Machine Learning Algorithms for Big Data Analytics: Introduction	CO-2, L-1
42	12-1-2022	31/12/2021	Estimating the relationships, Outliers & Variances	CO-2, L-1
43	13-1-2022	4/1/2022	Probability Distributions with example	CO-2, L-1
44	17-1-2022	6/1/2022	Correlations & Regression analysis	CO-2, L-1
45	18-1-2022	8/1/2022	Finding Similar Items, Similarity of Sets and Collaborative Filtering	CO-2, L-1
46	19-1-2022	10/1/2022	Frequent Itemsets and Association Rule Mining.	CO-2, L-1
47	24-1-2022	11/1/2022	Text, Web Content, Link, and Social Network Analytics: Introduction	CO-2, L-1
48	25-1-2022	13/1/2022	Text mining, Web Mining, Web Content and Web Usage Analytics	CO-2, L-1
49	27-1-2022	17/1/2022	Page Rank, Structure of Web and analyzing a Web Graph	CO-2, L-1
50	28-1-2022	18/1/2022	Social Network as Graphs and Social Network Analytics	CO-2, L-1

Assignment 3 on 4th and 5th module



Staff In-Charge



HOD

APS College of Engineering, Somanahalli, Bengaluru-82

Dept of Electronics and Communication Engineering

INTERFACE DESIGN

[As per Choice Based Credit System (CBCS) scheme]

SEMESTER –VII

Name of the Faculty: Pallavi H B

Year: 2021-22

Subject Code	18CS734	IA Marks	40
Number of Contact Hours/Week	3:0:0	Exam Marks	60
Total Number of Contact Hours	40	Exam Hours	03

Credits 03**Course objectives:**

This course will enable students to:

CLO-1: To study the concept of menus, windows, interfaces**CLO-2:** To study about business functions**CLO-3:** To study the characteristics and components of windows and the various controls for the windows.**CLO-4:** To study about various problems in windows design with color, text, graphics.**CLO-5:** To study the testing methods

Text Books				
1	The Essential Guide to User Interface Design	Wilbert. O. Galitz	John Wiley& Sons	2001
Reference Books				
1	Design the User Interface	Ben Sheiderman	Pearson Education	1998
2	The Essential of User Interface Design	Alan Cooper	Wiley - Dream Tech Ltd	2002

Course Delivery Plan

Period	Planned Date	Engaged Date	Topic / Session topic	Pertaining CO& BTL	Instructional Methods / Activities
1	4/10/2021	04 10 2021	Module 1: The User Interface- Introduction, Overview,	CO-1 BTL-1	Black Board
2	5/10/2021	05 10 2021	The importance of user interface	CO-1	Black Board

3	7/10/2021	07/10/2021	Defining the user interface	CL-1 BTL-1	Black Board
4	11/10/2021	11/10/2021	The importance of Good design	CO-1 BTL-2	Black Board
5	12/10/2021	12/10/2021	The importance of Good design	CO-1 BTL-2	Black Board
6	13/10/2021	13/10/2021	Characteristics of graphical user interfaces	CO-1 BTL-3	Black Board
7	21/10/2021	21/10/2021	and web user interfaces	CO-1 BTL-2	Black Board
8	25/10/2021	26/10/2021	Principles of user interface design	CO-1 BTL-1	Black Board

Assignment 1: Answer module 1 questions 1 to 5 from question bank and completed assignment to be submitted by

09	26/10/2021	27/10/2021	Module 2: User interface design process	CO-2 BTL-1	Black Board
10	27/10/2021	04/11/2021	obstacles-usability-	CO-2 BTL-1	Black Board
11	28/10/2021	08/11/2021	human characteristics in design	CO-2 BTL-1	Black Board
12	02/11/2021	09/11/2021	Human interaction speed	CO-2 BTL-1	
13	4/11/2021	10/11/2021	business functions	CO-2 BTL-1	Black Board
14	8/11/2021	11/11/2021	Business definition and requirement analysis,	CO-2 BTL-2 BTL-3	Black Board
15	9/11/2021	18/11/2021	Basic business functions,	CO-2 BTL-1	Black Board
16	10/11/2021	23/11/2021	Design standards.	CO-2 BTL-1	Black Board

Assignment 2: Answer module 2 questions 1 to 5 from question bank and completed assignment to be submitted by

17	11/11/2021 18/11/2021	24/11/2021	Module 3: System menus and navigation schemes- Structures of menus	CO-3 BTL-1	Black Board
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18	23/11/2021	29/11/2021	Functions of menus,	CO-3 BTL-1	Black Board
19	24/11/2021	30/11/2021	Contents of menus	CO-3 BTL-1	Black Board
20	29/11/2021	01/12/2021	Formatting of menus	CO-3 BTL-2	Black Board
21	30/11/2021	02/12/2021	Phrasing the menu,	CO-3 BTL-2	Black Board
22	01/12/2021	06/12/2021	Selecting menu choices	CO-3 BTL-1 BTL-2	Black Board
23	2/12/2021	7/12/2021	Navigating menus,	CO-3 BTL-2 BTL-3	Black Board
24	6/12/2021	9/12/2021	Kinds of graphical menus.	CO-3 BTL-2	Black Board

Assignment 3: Answer module 3 questions 1 to 5 from question bank and completed assignment to be submitted by

25	7/12/2021 8/12/2021	9/12/2021	Module 4: Windows	CO-4 BTL-2	Black Board
26	9/12/2021	13/12/2021	Characteristics-components-presentation styles	CO-4 BTL-2	Black Board
27	13/12/2021	15/12/2021	types	CO-4 BTL-2	Black Board
28	15/12/2021	16/12/2021	Managements organizations	CO-4 BTL-2	Black Board
29	16/12/2021 23/12/2021	23/12/2021	Organizing window functions	CO-4 BTL-1	Black board
30	27/12/2021	27/12/2021	operations	CO-4 BTL-2	Black board
31	28/12/2021	28/12/2021	web systems	CO-4 BTL-2	Black Board
32	29/12/2021 30/12/2021	29/12/2021	Characteristics of device based controls.	CO-4 BTL-1	Black Board

Assignment 4: Answer module 4 questions 6 to 10 from question bank and completed assignment to be submitted by

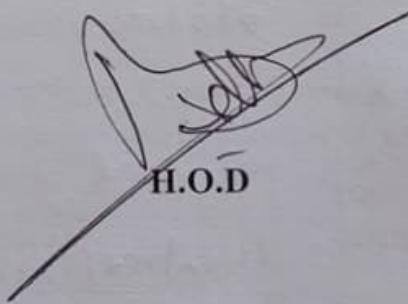
33	3/01/2022 4/01/2022	30/12/2021 03/01/2022	Module 5: Screen based controls	CO-5 BTL-1	Black Board
34	05/01/2022	04/01/2022	Operable control, Text control	CO-5 BTL-1 BTL-2	Black Board
35	6/01/2022 10/01/2022	05/01/2022 06/01/2022	Selection control	CO-5 BTL-1	Black Board

36	12/01/2022	10/01/2022	Custom control	CO-5 BTL-2	Black Board
37	13/01/2022	12/01/2022	Presentation control	CO-5 BTL-2	Black Board
38	17/01/2022	13/01/2022	Windows Tests	CO-5 BTL-3	Black Board
39	18/01/2022	17/01/2022	prototypes	CO-5 BTL-2 BTL-3	Black Board
40	19/01/2022	19/01/2022	kinds of tests	CO-5 BTL-2 BTL-3	Black Board

Assignment 5: Answer module 5 questions 1 to 5 from question bank and completed assignment to be submitted by



Staff



H.O.D



APS College of Engineering

Somanahalli, Kanakapura Road, Bangalore-82
Department of Information Science and Engineering

Subject Name: Network Management

Subject Code	18CS742	IA Marks	40
Number of Lecture Hours/Week	03	Exam Marks	60
Total Number of Lecture Hours	40	Exam Hours	03
SEMESTER	VII	CREDITS	03
Name of the Faculty	Ramya P V	Academic Year	2021-2022

Course Delivery Plan

Period /Hour	Planned Date	Execution Date	Topic / Session topic	CO & REVISED Bloom's Taxonomy
Module-1				
1	12/10/2021	12/10/2021	Introduction: Analogy of telephone Network Management, Data and Telecommunication Network Distributed computing Environment	CO-1 L-1,L-2
2	18/10/2021	18/10/2021	TCP/IP-Based Networks: The Internet and Intranets, Communication Protocols and Standards	CO-1 L-1,L-2
3	21/10/2021	21/10/2021	Communication Architectures, Protocol Layers and Services; Case Histories of Networking and Management	CO-1 L-1,L-2
4	25/10/2021	21/10/2021	The importance of topology, Filtering Does Not Reduce Load on Node, Some Common Network Problems;	CO-1 L-1,L-2
5	26/10/2021	25/10/2021	Challenges of Information Technology Managers, Network Management Goals	CO-1 L-1,L-2
6	26/10/2021	26/10/2021 28/10/2021	Organization, and Functions- Goals of Network Management, Network Provisioning, Network Operations and the NOC.	CO-1, L-1,L-2
7	28/10/2021	2/11/2021	Network Installation and Maintenance; Network and system Management	CO-1 L-1,L-2
8	2/11/2021	2/11/2021	Network Management System platform, Current Status and Future of Network Management.	CO-1 L-1,L-2
1st Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 1)				

<u>Module-2</u>				
9	2/11/2021	8/11/2021	Basic Foundation: Standards, Models, and Language: Network Management Standards	CO-2 L-1,L-2
10	8/11/2021	8/11/2021	Network Management Model, Organization Model, Information Model	CO-2 L-1,L-2
11	9/11/2021	9/11/2021	Management Information Trees, Managed Object Perspectives	CO-2 L-1,L-2
12	23/11/2021	23/11/2021	Communication Model	CO-2 L-1,L-2
13	25/11/2021	28/11/2021	ASN.1-Terminology, Symbols, and Conventions	CO-2 L-1,L-2
14	29/11/2021	25/11/2021	Objects and Data Types	CO-2 L-1,L-2
15	30/12/2021	25/11/2021	Object Names, An Example of ASN.1 from ISO 8824; Encoding Structure	CO-2 L-1,L-2
16	2/12/2021	29/11/2021	Macros, Functional Model	CO-2 L-1,L-2

2nd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 2)

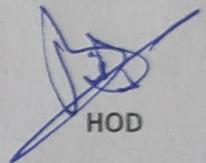
<u>Module-3</u>				
17	6/12/2021	80/12/2021 2/12/2021	SNMPv1 Network Management: Managed Network: The History of SNMP Management, Internet Organization and standards	CO-3 L-1, L-2
18	7/12/2021	7/12/2021	Internet Documents, The SNMP Model, The Organization Model, System Overview. The Information Model- Introduction	CO-3 L-1, L-2
19	7/12/2021	9/12/2021	The Structure of Management Information, Managed Objects, Management Information Base	CO-3 L-1, L-2
20	9/12/2021	13/12/2021	The SNMP Communication Model- The SNMP Architecture, Administrative Model, SNMP Specifications	CO-3 L-1, L-2
21	13/12/2021	14/12/2021 14/12/2021	SNMP Operations, SNMP MIB Group, Functional Model SNMP Management- RMON: Remote Monitoring, RMON SM1 and MIB	CO-3 L-1, L-2
22	14/12/2021	15/12/2021	RMON1-RMON1 Textual Conventions, RMON1 groups and Functions, Relationship Between Control and Data Tables	CO-3 L-1, L-2
23	14/12/2021	16/12/2021	RMON1 Common and Ethernet Groups, RMON Token Ring Extension Groups	CO-3 L-1, L-2
24	16/12/2021	28/12/2021	RMON2- The RMON2 Management	CO-3

		28/12/2021	Information Base, RMON2 Conformance Specification	L-1, L-2
3rd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 3)				
Module-4				
25	23/12/2021	27/12/21	Broadband Access Network, Broadband Access Technology; HFCT Technology: The Broadband LAN, The Cable Modem	CO-4 L-1, L-2
26	27/12/2021	28/12/21	The Cable Modem Termination System, The HFC Plant, The RF Spectrum for Cable Modem; Data Over Cable, Reference Architecture	CO-4 L-1, L-2
27	28/12/2021	28/12/21	HFC Management- Cable Modem and CMTS Management, HFC Link Management, RF Spectrum Management, DSL Technology	CO-4 L-1, L-2
28	30/12/2021	3/1/22 4/1/22	Asymmetric Digital Subscriber Line Technology-Role of the ADSL Access Network in an Overall Network	CO-4 L-1, L-2
29	3/1/2022	6/1/22	ADSL Architecture, ADSL Channeling Schemes, ADSL Encoding Schemes	CO-4 L-1, L-2
30.	4/1/2022	10/1/22	ADSL Management-ADSL Network Management Elements, ADSL Configuration Management	CO-4 L-1, L-2
31	6/1/2022	10/1/22	ADSL Fault Management, ADSL Performance Management, SNMP-Based ADSL Line MIB	CO-4 L-1, L-2
32	10/1/2022	11/1/22	MIB Integration with Interfaces Groups in MIB-2, ADSL Configuration Profiles.	CO-4 L-1, L-2
4th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 4)				
Module-5				
33	11/1/2022	18/1/22	Network Management Applications: Configuration Management- Network Provisioning, Inventory Management, Network Topology	CO-5 L-1, L-2
34	13/1/2022	17/1/22	Fault Management- Fault Detection, Fault Location and isolation 24 Techniques, Performance Management-Performance Metrics	CO-5 L-1, L-2
35	17/1/2022	17/1/22 18/1/22	Data Monitoring, Problem isolation, Performance Statistics; Event Correlation Techniques- Rule-Based Reasoning	CO-5 L-1, L-2
36	18/1/2022	18/1/22	Model-Based Reasoning, Case-Based Reasoning, Codebook correlation Model, State Transition Graph Model	CO-5 L-1, L-2

37	19/1/2022	19/1/22	Finite State Machine Model, Security Management- Policies and Procedures, Security Breaches and the Resources Needed to Prevent Them	CO-5 L-1, L-2
38	19/1/2022	19/1/22	Firewalls, Cryptography, Authentication and Authorization, Client/Server Authentication Systems	CO-5 L-1, L-2
39	24/1/2022	24/1/22	Messages Transfer Security, Protection of Networks from Virus attacks, Accounting Management	CO-5 L-1,L-2
40	25/1/2022	24/1/22	Report Management, Policy-Based Management, Service level management	CO-5 L-1,L-2

5th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 5)

RVP
Staff In-Charge



HOD

Sub: Energy and Environment

Subject Code	18ME751	IA Marks	40
Number of Lecture Hours/Week	04	Exam Marks	80
Total Number of Lecture Hours	50	Exam Hours	03
Credits 04			

Course objectives:

1. Understand energy scenario, energy sources and their utilization.
2. Learn about methods of energy storage, energy management and economic analysis
3. Have proper awareness about environment and eco system,
4. Understand the environment pollution along with social issues and acts.

Course Outcomes:

Upon successful completion of this course you should be able to:

CO1: Summarize the basic concept of energy, its distribution and general scenario

CO2: Explain different energy storage system, energy management, audit and economic analysis

CO3: Summarize the environment ecosystem and its need for awareness

CO4: Identify the various types of environmental pollution and their effects.

CO5: Discuss social issues of environment with associated acts.

Course Delivery Plan

Period	Date		Topic / Session topic	Pertaining CO/CLOs & BTL	Instructional Methods / Activities
	PLANNED DATE	ENGAGED DATE			
1	08/10/2021	8/10/21	MODULE:01 Introduction to energy and power concepts	L1,L2,CO-1	Oral presentation with use of chalk and sketch
2	08/10/2021	8/10/21	General description of the energy. Engineering applications of energy system	L1,L2,CO-1	Oral presentation with use of chalk and sketch
3	13/10/2021	13/10/21	Introduction to various forms of energy	L1,L2,CO-1	Oral presentation with use of chalk and sketch
4	13/10/2021	13/10/21	Introduction to energy flows and world energy production	L1,L2,CO-1	Oral presentation with use of chalk and sketch
5	22/10/2021	22/10/21 22/10/2021	Consumption of energy	L1,L2,CO-1	Oral presentation with use of chalk and sketch
6	10/11/2021	10/11/21	Electricity and access to modern energy	L1,L2,CO-1	Oral presentation with use of chalk and sketch
7	10/11/2021	10/11/21	Energy production and trade	L1,L2,CO-1	Oral presentation with use of chalk and sketch
8	12/11/2021	12/11/21	Factors affecting India's	L1,L2,CO-1	Oral presentation with use of chalk and sketch

			energydevelopment		
9	17/11/2021	17/11/21	Social and economical aspects	L1,L2,CO-1	Oral presentation with use of chalk and sketch
10	17/11/2021	17/11/21	Investment in energy sector	L1,L2,CO-1	Oral presentation with use of chalk and sketch
12	19/11/2021	19/11/21	MODULE:02 Introduction to various different energy storage system	L1,L2,CO-2	Oral presentation with use of chalk and sketch
13	19/11/2021	19/11/21	Introduction to different thermal storage system	L1,L2,CO-2	Oral presentation with use of chalk and sketch
14	24/11/2021	24/11/21	Introduction to energy saving	L1,L2,CO-2	Oral presentation with use of chalk and sketch
15	24/11/2021	24/11/21	Energy managment	L1,L2,CO-2	Oral presentation with use of chalk and sketch
16	1/12/2021	1/12/21	Energy demand and estimation	L1,L2,CO-2	Oral presentation with use of chalk and sketch
17	01/12/2021	1/12/21	Energy audit	L1,L2,CO-2	Oral presentation with use of chalk and sketch

18	3/12/2021	8/12/21	Characteristics of energy intensive industries	L1,L2,CO-2	Oral presentation with use of chalk and sketch
19	03/12/2021	3/12/21	Economic analysis	L1,L2,CO-2	Oral presentation with use of chalk and sketch
20	08/12/2021	8/12/21	Investment of projects	L1,L2,CO-2	Oral presentation with use of chalk and sketch
21	08/12/2021	8/12/21	Characterization of energy investment	L1,L2,CO-2	Oral presentation with use of chalk and sketch
22	10/12/2021	10/12/21	MODULE:03 Introduction to environment	L1,L2,CO-3	Oral presentation with use of chalk and sketch
23	15/12/2021	15/12/2021	Multidisciplinary nature of environment	L1,L2,CO-3	Oral presentation with use of chalk and sketch
24	15/12/2021	15/12/2021	Need for public awareness	L1,L2,CO-3	Oral presentation with use of chalk and sketch
25	17/12/2021	17/12/2021	Ecosystem	L1,L2,CO-3	Oral presentation with use of chalk and sketch
26	17/12/2021	17/12/21	Structure of ecosystem	L1,L2,CO-3	Oral presentation with use of chalk and sketch
27	22/12/2021	22/12/21	Food chains	L1,L2,CO-3	Oral presentation with use of chalk and sketch
28	22/12/2021	22/12/21	Forest ecosystem	L1,L2,CO-3	Oral presentation with use of chalk and sketch
29	31/12/2021	31/12/21	Introduction to different ecosystem	L1,L2,CO-3	Oral presentation with use of chalk and sketch

					sketch
30	31/12/2021	31/12/21	Ecological Succession Aquatic ecosystem MODULE:04	L1,L2,CO-3	Oral presentation with use of chalk and sketch
32	05/01/2022	05/01/21	Environmental pollution	L1,L2,CO-4	Oral presentation with use of chalk and sketch
33	05/01/2022	05/01/22	Definition of pollution Control measures Nuclear hazards.	L1,L2,CO-4	Oral presentation with use of chalk and sketch
38	08/01/2022	08/1/22	Solid waste management Disaster management Pollution case studies	L1,L2,CO-4	Oral presentation with use of chalk and sketch
42	08/01/2022	08/01/22	MODULE:05 Introduction to social issues and environment	L1,L2,CO-5	Oral presentation with use of chalk and sketch
43	12/01/2022	12/01/22	Global warming and acid rains	L1,L2,CO-5	Oral presentation with use of chalk and sketch
44	12/01/2022	12/01/22	Ozone layer depletion, nuclear accidents Wasteland reclamation	L1,L2,CO-5	Oral presentation with use of chalk and sketch
45	14/01/2022	14/01/22	Environmental pollution act Wild life protection act	L1,L2,CO-5	Oral presentation with use of chalk and sketch
46	14/01/2022	14/01/22	Forest conservation act Water pollution ac	L1,L2,CO-5	Oral presentation with use of chalk and sketch

Faculty :

HOD

H.O.D. of Mech Engg.
APSCE, Somanahalli,
Bangalore-560082

APS College of Engineering, Somanahalli, Bengaluru-82

Department of Information Science & Engineering

[As per Choice Based Credit System (CBCS) scheme]

Sem:7th

Year: 2021(Odd) / 2022

Name of the Faculty: Prof. Pallavi H B+Prof.Nandeeswar S B

Subject Code	18CSL76 AI&ML Laboratory	IA Marks	40
Number of Lecture Hours/Week	0:2:2	Exam Marks	60
Total Number of Lecture Hours	36	Exam Hours	03
Credits 02			

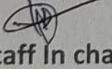
Course Objective:

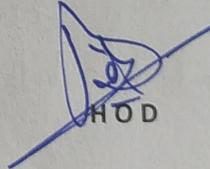
CO 1: Implement and demonstrate AI and ML algorithms.

CO2: Evaluate different algorithms.

Period	Batch	Planned Date	Execution Date	Topic / Session topic	Pertaining CO/CLOs & BLT	Instructional Methods / Activities
1	B1	03/10/21	13/10	Implement A* Search algorithm	CO 1 L3	Black Board/Execution
	B2	07/10/21	7/10/21			
2	B1	10/10/21	10/10	Implement AO* Search algorithm.	CO 2 CO3 L3	Black Board/Execution
	B2	21/10/21	21/10/21			
3	B1	24/10/21	24/10/21	For a given set of training data examples stored in a .CSV file, implement and demonstrate the Candidate-Elimination algorithm to output a description of the set of all hypotheses consistent with the training examples.	CO 1 CO2 L3	Black Board/Execution
	B2	28/10/21	28/10/21			
4	B1	2/11/21	2/11/21	Write a program to demonstrate the working of the decision tree based ID3 algorithm. Use an appropriate data set for building the decision tree and apply this knowledge to classify a new sample.	CO 1 CO2 L3	Black Board/Execution
	B2	4/11/21	4/11/21			
5	B1	8/12/21	8/12/21	Build an Artificial Neural Network by implementing the Backpropagation	CO 1 CO2	Black Board/Execution

	B2	11 11 21	11 11 21	algorithm and test the same using appropriate data sets.	L3	ution
6	B1	15 12 21	15 12 21	Write a program to implement the naïve Bayesian classifier for a sample training data set stored as a .CSV file. Compute the accuracy of the classifier, considering few test data sets.	CO 1 CO2 L3	Black Board/Execution
	B2	18 11 21	18 11 21			
7	B1	23 12 21	23 12 21	Apply EM algorithm to cluster a set of data stored in a .CSV file. Use the same data set for clustering using k-Means algorithm. Compare the results of these two algorithms and comment on the quality of clustering. You can add Java/Python ML library classes/API in the program	CO 1 CO2 L3	Black Board/Execution
	B2	25 11 21	25 11 21			
8	B1	30 12 21	30 12 21	Write a program to implement k-Nearest Neighbour algorithm to classify the iris data set. Print both correct and wrong predictions. Java/Python ML library classes can be used for this problem.	CO 1 CO2 L3	Black Board/Execution
	B2	31 12 21	31 12 21			
9	B1	5 1 22	5 1 22	Implement the non-parametric Locally Weighted Regression algorithm in order to fit data points. Select appropriate data set for your experiment and draw graphs	CO 1 CO2 L3	Black Board/Execution
	B2	9 12 22	9 12 22			
10	B1	12 1 22	12 1 22	Revision		
	B2	16 12 22	16 12 22			
11	B1	28 1 22	28 1 22	Lab Internals		
	B2	28 1 22	28 1 22			


Staff In charge


HOD

**APS College of Engineering,
Somanahalli, Bengaluru-82.**

Department of Mathematics

**Lesson plan and Lesson delivery details
Complex Analysis, Probability and statistical methods
[As per Choice Based Credit System (CBCS) scheme]**

SEM- IV

Year: 2021-2022(Even Semester 2022)

**Name of the Faculty: K.S.Anand
Section: IV ISE**

Subject Code	18MAT41	IA Marks	40
Number of Lecture Hours/Week	03	Exam Marks	60
Total Number of Lecture Hours	40	Exam Hours	03
Credits 03			

Course objectives:

This course will enable students to:

CLO1: provide an insight into applications of complex variables.

CLO2: provide an insight into applications of complex transformation and complex integration.

CLO3: learn probability distributions of discrete, continuous random variables.

CLO4: learn the concept of correlation and regression and apply it solve problems on Statistics

CLO5: learn sampling theory and find its applications in analytics.

Course outcomes:

After studying this course, students will be able to

CO1: Use the concepts of analytic function and complex potentials to solve the problems arising in electromagnetic field theory.

CO2: Utilize conformal transformation and complex integral arising in aerofoil theory, fluid flow visualization and image processing.

CO3: Apply discrete and continuous probability distributions in analyzing the probability models arising in engineering field.

CO4: Make use of the correlation and regression analysis to fit a suitable mathematical model for the statistical data.

CO5: Construct joint probability distributions and demonstrate the validity of testing the hypothesis.

Text Books				
1	Advanced Engineering Mathematics	E.Kreyszig	John wiley& sons	2016
2	Higher Engineering Mathematics	B S Grewal	Khanna Publications	2015

Module 1: Complex Analysis I					
Lecture	Planned Date	Execution Date	Topic / Session topic	Pertaining CO & BTL	Instructional Method/Activity
1	24/5/22	24/5	Introduction to Complex analysis	L1,CO1	Chalk& talk
2	24/5/22	24/5	Derivation of CR equation in Cartesian form	L1,CO1	Chalk& talk
3	26/5/22	26/5	Derivation of corollaries	L1,CO1	Chalk& talk
4	27/5/22	27/5	Problems on analytic functions	L3,CO1	Chalk& talk
5	31/5/22	31/5	Problems on analytic functions	L3,CO1	Chalk& talk
6	31/5/22	31/5	Derivation of CR equation in polar form	L3,CO1	Chalk& talk
7	2/6/22	3/6	Problems on construction of analytic functions	L3,CO1	Chalk& talk
8	3/6/22	7/6	Problems on construction of analytic functions	L3,CO1	Chalk& talk
9	7/6/22	7/6	Problems on construction of analytic functions	L3,CO1	Chalk& talk
10	7/6/22	9/6	Problems on construction of analytic functions	L3,CO1	Chalk& talk

Module 2: Complex Analysis II					
Lecture	Planned Date	Execution Date	Topic / Session topic	Pertaining CO & BTL	Instructional Method/Activity
1	9/6/22	14/6	Transformations, Standard results	L1,CO2	Chalk& talk
2	10/6/22	14/6	Discussion of Transformation	L1,CO2	Chalk& talk
3	14/6/22	28/6	Discussion of Transformation	L1,CO2	Chalk& talk
4	14/6/22	28/6	Problems on Bilinear transformations	L3,CO2	Chalk& talk
5	16/6/22	12/7	Problems on Bilinear transformations	L3,CO2	Chalk& talk
6	17/6/22	12/7	Line Integral Problems	L3,CO2	Chalk& talk
7	28/6/22	13/7	Derivation of Cauchy's theorem and Cauchy's integral formula	L3,CO2	Chalk& talk
8	28/6/22	13/7	Problems on Cauchy's integral formula	L3,CO2	Chalk& talk
9	5/7/22	19/7	Problems on Cauchy's integral formula	L3,CO2	Chalk& talk

Module 3: Probability distributions

Lecture	Planned Date	Execution Date	Topic / Session topic	Pertaining CO & BTL	Instructional Method/Activity
1	5/7/22	19/7	Introduction to Random variables	L1,CO3	Chalk& talk
2	7/7/22	19/7	Problems on discrete random variables	L3,CO3	Chalk& talk
3	12/7/22	22/7	Problems on discrete random variables	L3,CO3	Chalk& talk
4	12/7/22	22/7	Problems on continuous random variables	L3,CO3	Chalk& talk
5	14/7/22	22/7	Problems on Binomial distribution	L3,CO3	Chalk& talk
6	15/7/22	26/7	Problems on Poisson distribution	L3,CO3	Chalk& talk
7	19/7/22	26/7	Problems on Exponential distribution	L3,CO3	Chalk& talk
8	19/7/22	26/7	Problems on Normal distribution	L3,CO3	Chalk& talk
9	21/7/22	28/7	Problems on Normal distribution	L3,CO3	Chalk& talk

Module 5: Joint probability and Sampling Thoery

Lecture	Planned Date	Execution Date	Topic / Session topic	Pertaining CO & BTL	Instructional Method/Activity
1	22/7/22	28/7	Problems on joint probability distributions	L3,CO5	Chalk& talk
2	26/7/22	29/7	Problems on joint probability distributions	L3,CO5	Chalk& talk
3	26/7/22	29/7	Introduction to sampling and sampling distributions	L1,CO5	Chalk& talk
4	28/7/22	5/8	Problems on sampling distributions	L3,CO5	Chalk& talk
5	4/8/22	9/8	Problems on sampling distributions	L3,CO5	Chalk& talk
6	5/8/22	9/8	Problems on hypothesis testing	L3,CO5	Chalk& talk
7	11/8/22	12/8	Problems on chi-square distribution	L3,CO5	Chalk& talk
8	12/8/22	16/8	Problems on t-distributions	L3,CO5	Chalk& talk

Module 4: Statistical Methods

Lecture	Planned Date	Execution Date	Topic / Session topic	Pertaining CO & BTL	Instructional Method/ Activity
1	16/8/22	16/8	Problems on fitting of a line	L1,CO4	Chalk& talk
2	16/8/22	17/8	Problems on fitting of a parabola	L1,CO4	Chalk& talk
3	18/8/22	17/8	Problems on fitting of exponential curve	L1,CO4	Chalk& talk
4	19/8/22	18/8	Derivations on correlation and regression	L1,CO4	Chalk& talk
5	23/8/22	18/8	Problems on Correlation and regression	L3,CO4	Chalk& talk
6	23/8/22	18/8	Problems on Correlation and regression	L3,CO4	Chalk& talk
7	30/8/22	22/8	Problems on Rank Correlation	L3,CO4	Chalk& talk
8	30/8/22	22/8	Problems on Rank Correlation	L3,CO4	Chalk& talk
9	1/9/22		Problems	L1,CO4	Chalk& talk

k.s.Aneel

Faculty

nees.t.
First year coordinator

APS College of Engineering, Somanahalli, Bengaluru-82
 Dept of Information Science and Engineering
 [As per Choice Based Credit System (CBCS) scheme]

SEMESTER – IV

Name of the Faculty: Shravya S

Year: 2021-22

Subject Code	18CS42	IA Marks	40
Number of Lecture Hours/Week	04	Exam Marks	60
Total Number of Lecture Hours	50	Exam Hours	03
Credits 04			

Course Delivery Plan

Period	Planned Date	Execution Date	Topic / Session topic	Pertaining CO & BTL	Instructional Methods / Activities
1	23/05/22	23/5/22	Module 1 Introduction-What is an Algorithm? Algorithm Specification	CO-1 L-2	Black Board
2	25/05/22	25/5/22	Analysis Framework	CO-1 L-2	Black Board
3	26/05/22	26/5/22	Performance Analysis: Space complexity, Time complexity	CO-1 L-2	Black Board
4	27/05/22	27/5/22	Asymptotic Notations: Big-Oh notation (O), Omega notation (Ω), Theta notation (Θ), and Little-oh notation (o)	CO-1 L-2	Black Board
5	28/05/22	28/5/22 30/5/22	Mathematical analysis of Non-Recursive Algorithms	CO-1 L-2	Black Board
6	30/05/22	1/6/22	Mathematical analysis of recursive Algorithms with Examples	CO-1 L-2, L-3	Black Board
7	1/06/22	2/6/22	Important Problem Types: Sorting, Searching, String processing	CO-1 L-2	Black Board
8	2/06/22	8/6/22	Graph Problems, Combinatorial Problems	CO-1 L-2	Black Board
9	3/06/22	9/6/22 10/6/22	Fundamental Data Structures: Stacks, Queues,	CO-1 L-1	Black Board
10	6/06/22	11/6/22	Graphs, Trees, Sets and Dictionaries	CO-1 L-1	Black Board

Assignment 1 Q.no 1 to Q.no Q5, 25 to 28(Refer Question Bank of Module 1)

11	8/6/2021	13 6 22 15 6 22	Module-2 Divide and conquer General method, Binary search	CO-2 L-2	Black Board
12	9/6/2021	27 6 22	Recurrence equation for divide and conquer	CO-2 L-2	Black Board
13	10/6/2021	06 7 22	Finding the maximum and minimum	CO-2 L-3	Black Board
14	11/6/2021	7 7 22	Merge sort	CO-2 L-2	Black Board
15	13/6/2021	8 7 22	Merge sort	CO-2 L-3	Black Board
16	15/6/2021	15 7 22	Quicksort	CO-2 L-3	Black Board
17	16/6/2021	15 7 22	Strassen's matrix multiplication	CO-2 L-3	Black Board
18	17/6/2021	14 7 22	Advantages and Disadvantages of divide and conquer	CO-2 L-2	Black Board
19	27/6/2021	18 7 22	Decrease and Conquer Approach: Topological Sort	CO-2 L-2,3	Black Board
20	28/6/2021	20 7 22	Decrease and Conquer Approach: Topological Sort	CO-2 L-2,3	Black Board

Assignment 2 Q.no 9 to Q.no Q15(Refer Question Bank of Module 2) Submission Date:4/4/2020

21	6/07/22	21 7 22	Module-3 Greedy Method-General method, Coin Change Problem	CO-3 L-2,3	Black Board
22	7/07/22	22 7 22	Knapsack Problem	CO-3 L-3	Black Board
23	8/07/22	23 7 22	Knapsack Problem	CO-3 L-3	Black Board
24	9/07/22	25 7 22	Job sequencing with deadlines	CO-3 L-3	Black Board
25	11/07/22	27 7 22	Minimum cost spanning trees: Prim's Algorithm	CO-3 L-3	Black Board
26	13/07/22	28 7 22	Kruskal's Algorithm	CO-3 L-3	Black Board
27	14/07/22	28 7 22	Single source shortest paths: Dijkstra's Algorithm	CO-3 L-3	Black Board
28	15/07/22	29 7 22	Huffman Trees and Codes	CO-3 L-3	Black Board
29	18/07/22	29 7 22	Transform and Conquer Approach: Heaps and Heap Sort	CO-3 L-3	Black Board

30	20/07/22	3 8 22	Transform and Conquer Approach: Heaps and Heap Sort	CO-3 L-3	Black Board
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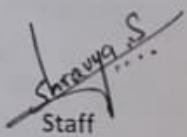
Assignment 3 Q.no3 to Q.no Q15(Refer Question Bank of Module 3) Submission Date:25/4/2020

31	21/07/22	3 8 22	Module -4 Dynamic Programming-General method with Examples, Multistage Graphs	CO-4 L-3	Black Board
32	22/07/22	4 8 22	Transitive Closure: Warshall's Algorithm	CO-4 L-3	Black Board
33	23/07/22	5 8 22	All Pairs Shortest Paths: Floyd's Algorithm	CO-4 L-3	Black Board
34	25/07/22	6 8 22	All Pairs Shortest Paths: Floyd's Algorithm	CO-4 L-3	Black Board
35	27/07/22	7 8 22	Optimal Binary Search Trees	CO-4 L-3	Black Board
36	28/07/22	8 8 22	Knapsack problem	CO-4 L-3	Black Board
37	29/07/22	9 8 22	Bellman-Ford Algorithm	CLO-2,3 L-3	Black Board
38	3/08/22	10 8 22	Travelling Sales Person problem	CO-4 L-3	Black Board
39	4/08/22	11 8 22	Travelling Sales Person problem	CO-4 L-3	Black Board
40	5/08/22	12 8 22	Reliability design	CO-4 L-3	Black Board

Assignment 4 Q.no 5 to Q.no Q 12(Refer Question Bank of Module 4) Submission Date:25/5/2020

			Module-5		
41	08/8/22 10/8/22	13 8 22 13 8 22	Backtracking- General method, N-Queens problem	CO-5 L-2	Black Board
42	11/8/22	14 8 22	N-Queens problem	CO-5 L-3	Black Board
43	12/8/22	15 8 22	Sum of subsets problem	CO-5 L-3	Black Board
44	13/8/22	16 8 22	Graph coloring	CO-5 L-3	Black Board
45	17/8/22	17 8 22	Hamiltonian cycles	CO-5 L-3	Black Board
46	18/8/22	18 8 22	Branch and Bound: Assignment Problem,	CO-5 L-2	Black Board
47	19/8/22	19 8 22	Travelling Sales Person problem	CO-5 L-1,3	Black Board

48	22/8/22 24/8/22	29 8 22	0/1 Knapsack problem, LC Branch and Bound solution	CO-5 L-1,3	Black Board
49	29/8/22	1 9 22	FIFO Branch and Bound solution	CO-5 L-3	Black Board
50	1/9/22 2/9/22	1 9 22 2 9 22	NP-Complete and NP-Hard problems: Basic concepts, non-deterministic algorithms, P, NP, NP-Complete, and NP-Hard classes	CO-5 L-2	Black Board
Assignment 5 Q.no 11 to Q.no Q18(Refer Question Bank of Module 5) Submission Date:					


Shrawan S.
Staff


HOD



APS College of Engineering

Somanahalli, Kanakapura Road, Bangalore-82

Department of Computer Science and Engineering

Subject Name: Operating System

Subject Code	18CS43	IA Marks	40
Number of Lecture Hours/Week	04	Exam Marks	60
Total Number of Lecture Hours	50	Exam Hours	03
Semester	V	Credits	03
Name of the Faculty	Dr. Kumar B I D	Academic Year	2020-21

Course Delivery Plan

Period /Hour	Planned Date	Period / Time	Execution Date	Topic / Session topic	CO & REVISED Bloom's Taxonomy
<u>Module-1</u>					
1	23-5-2022	23/5/22		Module – 1: Introduction to operating systems, System structures: Introduction	CO-1, L-2
2	24-5-2022	24/5/22		What operating systems do; Computer System organization; Computer System architecture;	CO-1, L-2
3	26-5-2022	26/5/22	3rd hour	Operating System structure; Operating System operations; Process management; Memory management	CO-1, L-1
4	26-5-2022	26/5/22	7th hour	Process management; Memory management; Storage management; Protection and Security;	CO-1, L-3
5	30-5-2022	30/5/22		Distributed system; Special-purpose systems; Computing environments	CO-1, L-2
6	31-5-2022	31/5/22		. Operating System Services; User - Operating System interface; System calls; Types of system calls; System programs	CO-1, L-3
7	1-6-2022	1 Jun 2022	4th Hour	Operating system design and implementation; Operating System structure; Virtual machines;	CO-1, L-2

Period Execution Date

8	6-6-2022	<u>1st hour</u>	<u>2/6/2022</u>	Operating System generation; System boot.	CO-1, L-2
9	7-6-2022	<u>1st hour</u>	<u>6/6/2022</u>	Process Management Process concept; Process scheduling	CO-1, L-2
10	9-6-2022	<u>2nd hour</u>	<u>7/6/2022</u>	Operations on processes; Inter process communication	CO-1, L-2

Assignment 1

Module-2

11	13-6-2022	<u>1st hour</u>	<u>9/6/2022</u>	Module – 2: Multi-threaded Programming: Introduction	CO-1, L-2
12	14-6-2022	<u>1st hour</u>	<u>13/6/2022</u>	Overview; Multithreading models; Thread Libraries; Threading issues.	CO-1, L-2
13	16-6-2022	<u>3rd hour</u>	<u>14/6/2022</u>	Process Scheduling: Basic concepts; Scheduling Criteria;	CO-1, L-3
14	27-6-2022	<u>2nd hour</u>	<u>15/6/2022</u>	Scheduling Algorithms; FCFS,	CO-1, L-3
15	28-6-2022	<u>1st hour</u>	<u>27/6/22</u>	Scheduling Algorithms; SJF, SRJF with problem & solutions	CO-1, L-2
16	4-7-2022	<u>2nd hour</u>	<u>28/6/22</u>	Scheduling Algorithms; Preemptive and NonPreemptive Priority scheduling	CO-1, L-2
17	5-7-2022		<u>4/7/22</u>	Multiple-processor scheduling; Thread scheduling.	CO-1, L-2
18	7-7-2022		<u>9/7/22</u> <u>6/7/22</u>	Process Synchronization: Synchronization: The critical section problem;	CO-1, L-3
19	8-7-2022		<u>11/7/22</u>	Peterson's solution; Synchronization hardware; Semaphores;	CO-1, L-3
20	9-7-2022		<u>12/7/22</u>	Classical problems of synchronization; Monitors	

Assignment 2

Module – 3

21	11-7-2022		<u>13/7/22</u>	Module – 3: Deadlocks : Deadlocks;	CO-1, L-2
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				System model; Deadlock characterization;	
22	12-7-2022	14/7/2022		Methods for handling deadlocks; Deadlock prevention; Deadlock avoidance;	CO-1, L-1
23	14-7-2022		21-july	Deadlock detection and recovery from deadlock.	CO-1, L-3
24	14-7-2022		28-july	Memory Management: Memory management strategies:	CO-1, L-2
25	18-7-2022		23rd-july	Background; Swapping; Contiguous memory allocation;	CO-1, L-2
26	19-7-2022		27th-july	Paging Concepts	CO-1, L-2
27	21-7-2022		28th-july	Structure of page table;	CO-1, L-2
28	21-7-2022		29th-july	Segmentation & problems	CO-1, L-2
29	23-7-2022		8th Aug	Paging with segmentation	CO-1, L-2
30	25-7-2022		12th Aug	Revision	-

Assignment 3

Module - 4

31	26-7-2022		4-8-2022	Virtual Memory Management: Background; Demand paging; Copy-on-write	CO-2, L-2
32	28-7-2022		4-8-2022	Page replacement; FIFO & LRU with problems	CO-2, L-2
33	28-7-2022		5-8-2022	Page replacement: Optimal	CO-2, L-2
34	4-8-2022		8-8-2022	Allocation of frames; Thrashing.	CO-2, L-2
35	4-8-2022		11-8-2022 12-8-2022	File System, Implementation of File System: File system; File concept; Access methods;	CO-2, L-2
36	5-8-2022		12-8-2022	Directory structure; File system mounting, File sharing;	CO-2, L-2
37	8-8-2022		17-8-2022	Protection: Implementing File system:	CO-2, L-2

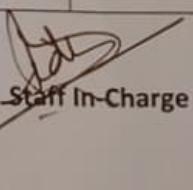
38	10-8-2022		15-8-22	File system structure; File system implementation;	CO-2, L-2
39	12-8-2022		17-8-22 16-8-22	Directory implementation; Allocation methods;	CO-2, L-3
40	13-8-2022		18-8-22	Free space management.	

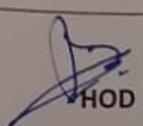
Assignment 4

Module – 5

41	15-8-2022		16-8-22	: Secondary Storage Structures, Protection:	CO-3, L-1
42	16-8-2022		22-8-22	Mass storage structures; Disk structure; Disk attachment; Disk scheduling; Look, C-Look	CO-3, L-1
43	18-8-2022		23-8-22	Seek, C-Seek Scheduling algorithms	CO-3, L-3
44	18-8-2022		29-8-22	Disk management; Swap space management. Protection: Goals of protection, Principles of protection,	CO-3, L-1
45	22-8-2022		30-8-22	Domain of protection, Access matrix, Implementation of access matrix, Access control	CO-3, L-3
46	23-8-2022		1-9-2022	Revocation of access rights, Capability-Based systems.	CO-3, L-1
47	29-8-2022		2-9-22	Case Study: The Linux Operating System: Linux history; Design principles;	CO-3, L-1
48	30-8-2022		3-9-22	Kernel modules; Process management; Scheduling;	CO-3, L-1
49	1-9-2022		—	Memory Management; File systems, Input and output;	CO-3, L-2
50	2-9-2022		—	Revision	

5th Assignment Questions: Remaining Portions


Staff In-Charge

HOD

APS College of Engineering, Somanahalli, Bengaluru-82

Dept of Information Science and Engineering

MICROCONTROLLER AND EMBEDDED SYSTEMS

[As per Choice Based Credit System (CBCS) Effect from 2018-19 scheme]

SEMESTER -IV

Name of the Faculty: Laxmikantha K

Year: 2021-22

Subject Code	18CS44	IA Marks	40
Number of Contact Hours/Week	3:0:0	Exam Marks	60
Total Number of Contact Hours	40	Exam Hours	03

Credits 03**Course objectives:**

This course will enable students to:

CLO-1: To understand the fundamentals of ARM based systems, basic hardware components, selection methods and attributes of an embedded system

CLO-2: To Program ARM controller using the various instructions

CLO-3: To Identify the applicability of the embedded system

CLO-4: To comprehend the real time operating system used for the embedded system

Text Books				
1	ARM system developers guide	Andrew N Sloss, Dominic Symes and Chris Wright	Elsevier, Morgan Kaufman publishers	2008
2	Introduction to Embedded Systems”	Shibu K V	Tata McGraw Hill Education, Private Limited	2nd Edition.

Reference Books				
1	Microcontroller (ARM) and Embedded System	Raghunandan..G.H,	Cengage learning Publication	2019
2	ARM System-on-Chip Architecture, Second Edition,	Steve Furber	Pearson	2015.

Course Delivery Plan

Period	Planned Date	Engaged Date	Topic / Session topic	Pertaining CO& BTL	Instructional Methods / Activities
1	23/05/2022	23/05/2022	Module 1: Microprocessors versus Microcontrollers,	CO-1 BTL-1	Black Board

2	25/05/2022	25/05/2022	ARM Embedded Systems: The RISC design philosophy,	CO-1	Black Board
3	26/05/2022	26/05/2022	The ARM Design Philosophy,	CL-1 BTL-1	Black Board
4	27/05/2022	27/05/2022	Embedded System Hardware, Embedded System Software.	CO-1 BTL-2	Black Board
5	28/05/2022	28/05/2022	ARM Processor Fundamentals: Registers,	CO-1 BTL-2	Black Board
6	30/05/2022	30/05/2022	Current Program Status Register,	CO-1 BTL-3	Black Board
7	1/06/2022	1/6/22	Pipeline, Exceptions,	CO-1 BTL-2	Black Board
8	2/06/2022	2/6/22	Interrupts, and the Vector Table , Core Extensions	CO-1 BTL-1	Black Board

Assignment 1: Answer module 1 questions 1 to 5 from question bank and completed assignment to be submitted by

09	03/06/2022	3/6/22	Module 2: Introduction to the ARM Instruction Set : Data Processing Instructions ,	CO-2 BTL-1	Black Board
10	06/06/2022	6/6/22	Programme Instructions,	CO-2 BTL-1	Black Board
11	08/06/2022	8/6/22	Software Interrupt Instructions, Program Status Register Instructions,	CO-2 BTL-1	Black Board
12	09/06/2022	9/6/22	Coprocessor Instructions,	CO-2 BTL-1	
13	10/06/2022	10/6/22	Loading Constants ARM programming using Assembly language: Writing Assembly code,	CO-2 BTL-1	Black Board
14	11/06/2022	11/6/22	Profiling and cycle counting,	CO-2 BTL-2 BTL-3	Black Board
15	13/06/2022	13/6/22	instruction scheduling, Register Allocation,	CO-2 BTL-1	Black Board
16	15/06/2022	15/6/22	Conditional Execution, Looping Constructs	CO-2 BTL-1	Black Board

Assignment 2: Answer module 2 questions 1 to 5 from question bank and completed assignment to be submitted by

17	16/06/2022	16/6/22	Module 3: Embedded System Components: Embedded Vs General computing system,	CO-3 BTL-1	Black Board
18	17/06/2022	17/6/22	History of embedded systems, Classification of Embedded systems,	CO-3 BTL-1	Black Board
19	20/06/2022	20/6/22	Major applications areas of embedded systems,	CO-3 BTL-1	Black Board
20	22/06/2022	22/6/22	purpose of embedded systems Core of an Embedded System including all types of processor/controller,	CO-3 BTL-2	Black Board
21	23/06/2022	23/6/22	Memory, Sensors, Actuators,	CO-3 BTL-2	Black Board
22	24/06/2022	24/6/22	LED, 7 segment LED display, stepper motor,	CO-3 BTL-1 BTL-2	Black Board
23	25/06/2022	25/6/22	Keyboard, Push button switch,	CO-3 BTL-2 BTL-3	Black Board
24	27/06/2022	27/6/22	Communication Interface (on board and external types), Embedded firmware, Other system components.	CO-3 BTL-2	Black Board

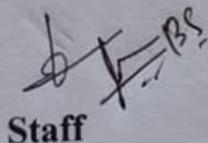
Assignment 3: Answer module 3 questions 1 to 5 from question bank and completed assignment to be submitted by

25	29/06/2022	29/6/22	Module 4: Embedded System Design Concepts: Characteristics	CO-4 BTL-2	Black Board
26	04/07/2022	4/7/22	Quality Attributes of Embedded Systems	CO-4 BTL-2	Black Board
27	06/07/2022	6/7/22	Operational quality attributes	CO-4 BTL-2	Black Board
28	07/07/2022	1/7/22	non-operational quality attributes	CO-4 BTL-2	Black Board
29	08/07/2022	13/7/22	, Embedded Systems- Application and	CO-4 BTL-1	Black board
30	09/07/2022	14/7/22	Domain specific, Hardware Software design	CO-4 BTL-2	Black board
31	11/07/2022	15/7/22	and Program Modelling,	CO-4 BTL-2	Black Board
32	13/07/2022	16/7/22	embedded firmware design and development	CO-4 BTL-1	Black Board

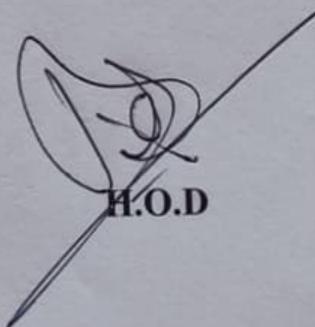
Assignment 4: Answer module 4 questions 6 to 10 from question bank and completed assignment to be submitted by

33	14/07/2022	18/7/22	Module 5:RTOS and IDE for Embedded System Design: Operating System basics,	CO-5 BTL-1	Black Board
34	15/07/2022	20/7/22	Types of operating systems, Task,	CO-5 BTL-1 BTL-2	Black Board
35	16/07/2022	21/7/22	process and threads (Only POSIX Threads with an example program),	CO-5 BTL-1	Black Board
36	18/07/2022	22/7/22	Thread pre-emption, Multiprocessing and Multitasking,	CO-5 BTL-2	Black Board
37	20/07/2022	24/7/22	Task Communication (without any program), Task synchronization issues – Racing and Deadlock,	CO-5 BTL-2	Black Board
38	21/07/2022	26/7/22	Concept of Binary and counting semaphores (Mutex example without any program), How to choose an RTOS, Integration and testing of Embedded hardware and firmware,	CO-5 BTL-3	Black Board
39	22/07/2022	11/8/22	Embedded system Development Environment – Block diagram (excluding Keil),	CO-5 BTL-2 BTL-3	Black Board
40	25/07/2022	31/8/22	Dis assembler/de compiler, simulator, emulator and debugging techniques, target hardware debugging, boundary scan.	CO-5 BTL-2 BTL-3	Black Board

Assignment 5: Answer module 5 questions 1 to 5 from question bank and completed assignment to be submitted by



Staff



H.O.D

APS College of Engineering

Somanahalli, Bengaluru-82
Information Science & Engineering

OBJECT ORIENTED CONCEPTS (18CS45)

[As per Choice Based Credit System (CBCS) scheme]

SEMESTER -4th

Name of the Faculty: Nandeeswar S B

Year: 2022

Subject Code	18CS45	IA Marks CIE	40
Number of Lecture Hours/Week	03	Exam Marks SEE	60
Total Number of Lecture Hours	40	Exam Hours	03
Credits 03			

Course objectives:

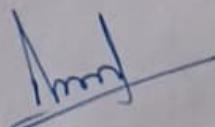
This course will enable students to:

- CLO-1:** Learn fundamental features of object oriented language and JAVA
- CLO-2:** Set up Java JDK environment to create, debug and run simple Java programs.
- CLO-3:** Create multi-threaded programs and event handling mechanisms.
- CLO-4:** Introduce event driven Graphical User Interface (GUI) programming using applets and swings.

Course outcomes:

After the completion of the course, the student should be able

- CO-1:** Explain the object-oriented concepts and JAVA.
- CO-2:** Develop computer programs to solve real world problems in Java.
- CO-3:** Develop simple GUI interfaces for a computer program to interact with users, and to understand the event-based GUI handling principles using Applets and swings.



Text Books

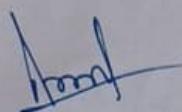
1	Object Oriented Programming with C++	Sourav Sahay	Oxford University Press,	2006
2	Java The Complete Reference	Herbert Schildt	Tata McGraw	7th Edition, Hill, 2007

Reference Books

1	"Programming with Java", First Edition,	Mahesh Bhave and Sunil Patekar,	Pearson Education,	2008,
2	The Complete Reference C++,	Herbert Schildt,	Tata McGraw Hill	4th Edition, 2003.
3	C++ Primer.	Stanley B.Lippmann, Josee Lajore,	Pearson Education	4th Edition, , 2005
4	Object oriented Programming with java,	Rajkumar Buyya,S Thamarasi selvi, xingchen chu,	tata McGraw Hill education private limited	
5	Introduction to Java Programming and OOAD,	Richard A Johnson,	CENGAGE Learning	
6	Programming with Java A primer,	E Balagurusamy,	Tata McGraw Hill companies.	

Course Delivery Plan

Hr	Date Planed/ Class Taken	Topic / Session topic	Pertaining CO/CLOs& BTL	Topic Learning Outcome (TLO)	Instructi onal Methods / Activities	Assessment Method for TLO
1	23/5/22	A Review of structures	CLO-1	Learn to Use structure in program	Black Board	Quiz/ Assignments, Internal Test
2	24/5/22	Procedure-Oriented Programming system, Object Oriented Programming System, Comparison of Object Oriented Language with C	CLO-1 CO-1	Learn the difference between pop and oop	Black Board	Quiz/ Assignments, Internal Test
3	26/5/22	Console I/O	CLO-1	Learn to read and write to console	Black Board	Quiz/Assignments, Internal Test
4	30/5/22	variables and reference variables	CLO-1	Learn the usage of variables and reference variables	Black Board and demonstration by execution	Quiz/Assignments, Internal Test
5	31/5/22	Function Prototyping, Function Overloading.	CLO-1	Learn what is function prototyping and to use function overloading in programs	Black Board and demonstration by execution	Quiz/ Assignments, Internal Test
6	1/6/22	Introduction, member functions and data	CLO-1	Learn about functions	Black Board	Quiz/Assignments, Internal Test
7	2/6/22	Introduction, member data	CLO-1	Learn about member data	Black Board and demonstration by execution	Quiz/ Assignments, Internal Test
8	6/6/22	objects and functions	CLO-1 CO-1	Learn how to pass object to a function	Black Board and demonstration by execution	Quiz/ Assignments, Internal Test



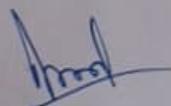
9	7/6/22	objects and arrays, Namespaces, Nested classes	CLO-1 CO-1	Learn to create array of an object And creating a class inside a class	Black Board	Quiz/ Assignments, Internal Test
10	8/6/22	Constructors, Destructors	CLO-1 CO-1	Learn the usage of constructor and destructor	Black Board	Quiz/ Assignments, Internal Test
11	13/6/22	Java's magic: the Byte code	CLO-2	Learn then advantage of java byte code	Black Board	Quiz/ Assignments, Internal Test
12	14/6/22	Java Development Kit (JDK);	CLO-2	Learn how to set up java's environment	Black Board	Quiz/ Assignments, Internal Test
13	15/6/22	Java Buzzwords	CLO-1	Learn the features of java	Black Board	Quiz/ Assignments, Internal Test
14	16/6/22	Object-oriented programming;	CLO-1	Learn the basics of oop	Black Board	Quiz/ Assignments, Internal Test
15	17/6/22	Simple Java programs	CO-2 CLO-1	Learn to write simple java program	Black Board and demonstrat ion by execution	Quiz/ Assignments, Internal Test
16	26/6/22	Simple Java programs	CLO-1	Learn to write simple java program	Black Board	Quiz/ Assignments, Internal Test
17	27/6/22	Data types	CLO-1	Learn about java built in data types	Black Board and demonstrat ion	Quiz/ Assignments, Internal Test
18	5/7/22	variables and arrays,	CLO-1	Learn about variables and arrays	Black Board	Quiz/ Assignments, Internal Test
19	6/7/22	Operators,	CLO-1	Learn about java's operators	Black Board	Quiz/ Assignments, Internal Test
20	7/7/22	Control Statements	CLO-1	Learn about java's control statements	Black Board	Quiz/ Assignments, Internal Test
21	12/7/22	Classes fundamentals	CO-1	Learns basics of classes	Black Board	Quiz/ Assignments, Internal Test
22	13/7/22	Declaring objects	CO-1	Learn how to create an object of a class	Black Board	Quiz/ Assignments, Internal Test
23	14/7/22	Constructors,	CO-1	Understand the use of constructor	Black Board	Quiz/ Assignments, Internal Test
24	15/7/22	this keyword	CO-1	Learn to use this keyword in java program	Black Board	Quiz/ Assignments, Internal Test

100%

25	18/7	garbage collection.	CLO-1	Learn to de allocate object from memory	Black Board and demonstration by execution	Quiz/ Assignments, Internal Test
26	20/7	inheritance basics, using super,	CO-1	Learn to use base class constructor and members using super	Black Board	Quiz/ Assignments, Internal Test
27	20/7	Creating multi level hierarchy, method overriding.	CO-1	Learn about polymorphism	Black Board	Quiz/ Assignments, Internal Test
28	23/7	Exception handling in Java	CLO-1	Learn to handle run time errors	Black Board	Quiz/ Assignments, Internal Test
29	23/7	Packages, Access Protection,	CO-1	Learn about accessibility in packages	Black Board	Quiz/ Assignments, Internal Test
30	25/7	Importing Packages, Interfaces	CO-1	Learn to use inbuilt packages And also basics of interfaces	Black Board	Quiz/ Assignments, Internal Test
31	26/7	Multi Threaded Programming: What are threads? How to make the classes threadable	CLO-3	Learn to create thread	Black Board	Quiz/ Assignments, Internal Test
32	3/8	Extending threads Implementing runnable	CLO-3	Learns two ways of creating threads	Black Board	Quiz/ Assignments, Internal Test
33	4/8	Synchronization;	CLO-3	Understand the need of synchronization	Black Board	Quiz/ Assignments, Internal Test
34	5/8	Changing state of the thread;	CLO-3	Learn to change the state of thread	Black Board	Quiz/ Assignments, Internal Test
35	8/8	Bounded buffer problems, read write problem, producer consumer problems.	CLO-3	Learn about different problems with respect to threads	Black Board	Quiz/ Assignments, Internal Test
36	9/8	Two event handling mechanisms;	CLO-4	Learn about events and event handling techniques	Black Board	Quiz/ Assignments, Internal Test
37	10/8	The delegation event model; Event classes;	CLO-4	Learn about different event classes	Black Board	Quiz/ Assignments, Internal Test
38	11/8	Sources of events; Event	CLO-4	Know the sources of events and learn	Black Board	Quiz/ Assignments, Internal Test

100%

		listener interfaces;		about event listener interfaces		
39	4/8	Using the delegation event model;	CLO-4	Understand delegation event model	Black Board	Quiz/ Assignments, Internal Test
40	17/8	Adapter classes; Inner classes.	CLO-4		Black Board	Quiz/ Assignments, Internal Test
41	17/8	Introduction, Two types of Applets;	CO-3	Know the types of applet	Black Board	Quiz/ Assignments, Internal Test
42	13/8	Applet basics; Applet Architecture; An Applet skeleton;	CO-3	Understand the applet architecture	Black Board	Quiz/ Assignments, Internal Test
43	17/8	Simple Applet display methods Requesting repainting	CO-3	Learn about different applet methods	Black Board	Quiz/ Assignments, Internal Test
44	18/8	Using the Status Window; The HTML APPLET tag;	CO-3	Learn to create status window and understand "applet" tag	Black Board	Quiz/ Assignments, Internal Test
45	18/8	Passing parameters to Applets; getDocumentbase() and getCodebase();	CO-3	Learn to pass parameter to applet To get address of a source file	Black Board	Quiz/ Assignments, Internal Test
46	19/8	ApletContext and showDocument(); The AudioClip Interface;	CO-3	Learn about applet context and show documentbase function	Black Board	Quiz/ Assignments, Internal Test
47	20/8	The AppletStub Interface; Output to the Console.	CO-3	Learn to write output from applet program	Black Board	Quiz/ Assignments, Internal Test
48	24/8 28/8	Swings: The origins of Swing; Two key Swing features; Components and Containers; The Swing Packages; A simple Swing Application; Create a Swing Applet;	CO-3 CLO-4	Learn the futures and application of swings	Black Board	Quiz/ Assignments, Internal Test
49	4/9 4/9	Jlabel and ImageIcon; JTextField; The Swing Buttons;	CLO-4 CO-3	Learn to create Labels text fields and buttons	Black Board	Quiz/ Assignments, Internal Test



50	Y9	JTabbedPane; JScrollPane; JList; JComboBox; JTable.	CO-3 CLO-4	Learn to create Tabbed pane, list, tables, combo box and scroll pane	Black Board	Quiz/ Assignments, Internal Test
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Done



APS College of Engineering

Somanahalli, Kanakapura Road, Bangalore-82
Department of Information Science and Engineering

Subject Name: DATA COMMUNICATION

Subject Code	18CS46	CIE Marks	40
Number of Lecture Hours/Week	3:0:0	SEE Marks	60
Total Number of Lecture Hours	40	Exam Hours	03
SEMESTER	IV	CREDITS	03
Name of the Faculty	VIDYA V PATIL	Academic Year	2021-22

Course Delivery Plan

Period /Hour	Planned Date	Execution Date	Topic / Session topic	CO & REVISED Bloom's Taxonomy
<u>Module-1</u>				
1	24/05/2022	24/05/22 25/05/22	Data Communications, Networks, Network Types	CO-1 L-1,L-2
2	25/05/2022	27/05/22 27/05/22	Internet History, Standards and Administration	CO-1 L-1,L-2
3	27/05/2022 27/05/2022	28/05/22 31/06/22	Networks Models: Protocol Layering	CO-1 L-1,L-2
4	28/05/2022	02/06/22 03/06/22	TCP/IP Protocol suite	CO-1 L-1,L-2
5	31/05/2022	07/06/22 08/06/22	The OSI model	CO-1 L-1,L-2
6	01/06/2022	10/6/22	Introduction to Physical Layer-1: Data and Signals	CO-1 L-1,L-2
7	03/06/2022	10/6/22	Digital Signals	CO-1 L-1,L-2
8	03/06/2022 07/06/2022	11/6/22	Transmission Impairment, Data Rate limits, Performance	CO-1 L-1,L-2
1 st Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 1)				
9	08/06/2022	14/6/22	Digital Transmission: Digital to digital conversion (Only Line coding: Polar, Bipolar and Manchester coding).	CO-2 L-1,L-2
10	10/06/2022 10/06/2022	15/6/22	Digital Transmission: Digital to digital conversion (Only Line coding: Polar, Bipolar and Manchester coding)(Continued..)	CO-2 L-1,L-2
12	11/06/2022	17/6/22 17/6/22	Analog to digital conversion (only PCM)	CO-2 L-1,L-2

13	14/06/2022	28/06/22	Transmission Modes (Continued...)	CO-2 L-1,L-2
14	15/06/2022	5/7/22	Transmission Modes	CO-2 L-1,L-2
15	17/06/2022 17/06/2022	6/7/22	Analog Transmission: Digital to analog conversion. (Continued...)	CO-2 L-1,L-2
16	28/06/2022	8/7/22 8/7/22	Analog Transmission: Digital to analog conversion	CO-2 L-1,L-2

2nd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 2)

21	05/07/2022	9/7/22	Bandwidth Utilization: Multiplexing	CO-3 L-1,L-2
22	06/07/2022	10/7/22	Spread Spectrum	CO-3 L-1,L-2
23	08/07/2022 08/07/2022	13/7/22	Switching: Introduction	CO-3 L-1,L-2
24	09/06/2022	15/7/22 15/7/22	Circuit Switched Networks	CO-3 L-1,L-2
25	12/07/2022	19/7/22	Packet switching	CO-3 L-1,L-2
26	13/07/2022	20/7/22	Error Detection and Correction: Introduction	CO-3 L-1,L-2
27	15/07/2022 15/07/2022	22/7/22	Block coding	CO-3 L-1,L-2
28	19/07/2022	22/7/22	Cyclic codes, Checksum.	CO-3 L-1,L-2

3rd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 3)

31	20/07/2022	23/7/22	Data link control: DLC services, Data link layer protocols	CO-4 L-1,L-2
32	22/07/2022 22/07/2022	26/7/22	Point to Point protocol (Framing, Transition phases only).	CO-4 L-1,L-2
33	23/07/2022	27/7/22	Media Access control: Random Access.	CO-4 L-1,L-2
34	26/07/2022	29/7/22	Controlled Access and Channelization	CO-4 L-1,L-2
35	27/07/2022	30/7/22	Introduction to Data-Link Layer: Introduction	CO-4 L-1,L-2

37	03/08/2022	4/8/22	IPv4 Addressing and subnetting: Classful and CIDR addressing	CO-4 L-1,L-2
38	05/08/2022 05/08/2022	5/8/22. 5/8/22	DHCP, NAT.	CO-4 L-1,L-2
4th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 4)				
41	10/08/2022	10/8/22 1	Wired LANs Ethernet: Ethernet Protocol.	CO-5 L-1,L-2
42	12/08/2022 12/08/2022	12/8/22	Standard Ethernet.	CO-5 L-1,L-2
43	13/08/2022	12/8/22 13/8/22	Fast Ethernet	CO-5 L-1,L-2
44	16/08/2022	16/8/22	Gigabit Ethernet .	CO-5 L-1,L-2
45	17/08/2022	17/8/22	10 Gigabit Etherne.	CO-5 L-1,L-2
46	19/08/2022 19/08/2022	19/8/22	Wireless LANs: Introduction,	CO-5 L-1,L-2
47	23/08/2022	23/8/22	IEEE 802.11 Project and Bluetooth	CO-5 L-1,L-2
48	24/08/2022	24/8/22	Other wireless Networks: Cellular Telephony	CO-5 L-1,L-2
49	30/08/2022	30/9/22	Deletion, Extendible Hashing Performance.	CO-5 L-1,L-2
50	02/09/2022 02/09/2022	02/09/22.	Alternative Approaches.	CO-5 L-1,L-2
5th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 5)				

V.V.Patil
Staff In-Charge

HOD
HOD

APS College of Engineering, Somanahalli, Bengaluru-82
Department of Information Science & Engineering
[As per Choice Based Credit System (CBCS) scheme]

Sem:4

Year: 2021-22(Even)

Name of the Faculty: Shravya S + Vidya V Patil

Subject Code	18CSL47	IA Marks	40
Number of Lecture Hours/Week	0:2:2	Exam Marks	60
Total Number of Lecture Hours	36	Exam Hours	03
Credits 02			

Lesson Plan Delivery

Period	Planned Date	Execution Date	Topic / Session topic	Pertaining CO/CLOs& BLT	Instructional Methods / Activities
1	23/05/22	30/5/22	Introduction to Java Basics	CO 2 L3	Black Board/Execution
2	30/05/22	6/6/22	<p>1A Create a Java class called <i>Student</i> with the following details as variables within it.</p> <ul style="list-style-type: none"> (i) USN (ii) Name (iii) Branch (iv) Phone <p>Write a Java program to create <i>n</i> <i>Student</i> objects and print the USN, Name, Branch, and Phone of these objects with suitable headings.</p> <p>1B Write a Java program to implement the Stack using arrays. Write Push(), Pop(), and Display() methods to demonstrate its working.</p>	CO 1 CO 2 CO 3 L3	Black Board/Execution

3	6/06/22	13/6/22	<p>2A Design a super class called <i>Staff</i> with details as StaffId, Name, Phone, Salary. Extend this class by writing three subclasses namely <i>Teaching</i> (domain, publications), <i>Technical</i> (skills), and <i>Contract</i> (period). Write a Java program to read and display at least 3 staff objects of all three categories.</p> <p>2B Write a Java class called <i>Customer</i> to store their name and date_of_birth. The date_of_birth format should be dd/mm/yyyy. Write methods to read customer data as <name, dd/mm/yyyy> and display as <name, dd, mm, yyyy> using StringTokenizer class considering the delimiter character as "/".</p>			CO 1 CO 2 CO 3 L3	Black Board/Execution
4	13/06/22	27/6/22	<p>3A Write a Java program to read two integers <i>a</i> and <i>b</i>. Compute <i>a/b</i> and print, when <i>b</i> is not zero. Raise an exception when <i>b</i> is equal to zero.</p> <p>3B Write a Java program that implements a multi-thread application that has three threads. First thread generates a random integer for every 1 second; second thread computes the square of the number and prints; third thread will print the value of cube of the number.</p>			CO 1 CO 2 CO 3 L3	Black Board/Execution
5	27/06/22	13/7/22	<p>4 Sort a given set of <i>n</i> integer elements using Quick Sort method and compute its time complexity. Run the program for varied values of <i>n</i> > 5000 and record the time taken to sort. Plot a graph of the time taken versus <i>n</i> on graph sheet. The elements can be read from a file or can be generated using the random number generator. Demonstrate using Java how the divide and conquer method works along with its time complexity analysis: worst case, average case and best case.</p>			CO 1 CO 2 CO 3 L3	
6	4/07/22	13/7/22	<p>5 Sort a given set of <i>n</i> integer elements using Merge Sort method and compute its time complexity. Run the program for varied values of <i>n</i> > 5000, and record the time taken to sort. Plot a graph of the time taken versus <i>n</i> on graph sheet. The elements can be read from a file or can be generated using the random number generator. Demonstrate using Java how the divide and conquer method works along with its time complexity analysis: worst case, average case and best case.</p>			CO 1 CO 2 CO 3 L3	Black Board/Execution

7	11/07/22	20/7/22	6 Implement in Java, the 0/1 Knapsack problem using (a) Dynamic Programming method (b) Greedy method.	C0 1 CO 2 CO 3 L3	Black Board/Execution
8	18/07/22	20/7/22	7 From a given vertex in a weighted connected graph, find shortest paths to other vertices using Dijkstra's algorithm. Write the program in Java.	C0 1 CO 2 CO 3 L3	Black Board/Execution
9	25/07/22	20/7/22	8 Find Minimum Cost Spanning Tree of a given connected undirected graph using Kruskal's algorithm. Use Union-Find algorithms in your program.	C0 1 CO 2 CO 3 L3	Black Board/Execution
10	8/08/22	27/7/22	9 Find Minimum Cost Spanning Tree of a given connected undirected graph using Prim's algorithm.	C0 1 CO 2 CO 3 L3	Black Board/Execution
11	9/08/22	27/7/22	10 Write Java programs to (a) Implement All-Pairs Shortest Paths problem using Floyd's algorithm. (b) Implement Travelling Sales Person problem using Dynamic programming.	C0 1 CO 2 CO 3 L3	Black Board/Execution
12	22/08/22	10/8/22	11. Design and implement in Java to find a subset of a given set $S = \{S_1, S_2, \dots, S_n\}$ of n positive integers whose SUM is equal to a given positive integer d . For example, if $S = \{1, 2, 5, 6, 8\}$ and $d= 9$, there are two solutions $\{1, 2, 6\}$ and $\{1, 8\}$. Display a suitable message, if the given problem instance doesn't have a solution.	C0 1 CO 2 CO 3 L3	Black Board/Execution
13	23/08/22	10/8/22	12. Design and implement in Java to find all Hamiltonian Cycles in a connected undirected Graph G of n vertices using backtracking principle.	C0 1 CO 2 CO 3 L3	Black Board/Execution.
14	23/08/22	24/8/22	Revision		
15	29/08/22	24/8/22 - ① 29/8/22 - ②	Lab Internals		

Shravya S
Staff



HOD

APS College of Engineering, Somanahalli, Bengaluru-82
 Dept of Information Science and Engineering
MICROCONTROLLER AND EMBEDDED SYSTEMS LABORATORY
(Effective from the academic year 2018 -2019)

SEMESTER – IV

[As per Choice Based Credit System (CBCS) Effect from 2018-19scheme]
 SEMESTER -IV Name of the Faculty: Laxmikantha K Year: 2021-22

Subject Code	18CSL48	IA Marks	40
Number of Contact Hours/Week	0:2:2	Exam Marks	60
Total Number of Contact Hours	36	Exam Hours	03
Credits 03			

Course objectives:

This course will enable students to:

CLO-1: Develop and test Program using ARM7TDMI/LPC2148

CLO-2: Conduct the experiments on an ARM7TDMI/LPC2148 evaluation board using evaluation version of Embedded 'C' & Keil Uvision-4 tool/compiler.

Course Delivery Plan

Period	Batch	Planned Date	Engaged Date	Topic / Session topic	Pertaining CO& BTL	Instructi onal Method s / Activiti es
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PART-A Conduct the following experiments by writing program using ARM7TDMI/LPC2148 using an Evaluation board/simulator and the required software tool.

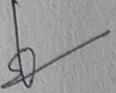
1	B1	25/05/2022	25/05/2022	1. Write a program to multiply two 16 bit binary numbers.	CO-1 L3	Black Board/Execution
2	B1	25/05/2022	25/05/2022	2. Write a program to find the sum of first 10 integer numbers.	CO-1 L3	Black Board/Execution
3	B1	01/06/2022	01/06/2022	3. Write a program to find factorial of a number.	CL-1 L3	Black Board/Execution

4	B1	01/06/2022	1/6/22	4. Write a program to add an array of 16 bit numbers and store the 32 bit result in internal RAM	CO-1 L3	Black Board/Execution
5	B1	08/06/2022	8/6/22	5. Write a program to find the square of a number (1 to 10) using look-up table.	CO-2 L3	Black Board/Execution
6	B1	15/06/2022	8/6/22	6. Write a program to find the largest/smallest number in an array of 32 numbers.	CO-2 L-3	Black Board/Execution
7	B1	22/06/2022	5/7/22	7. Write a program to arrange a series of 32 bit numbers in ascending/descending order.	CO-2 L-3	Black Board/Execution
8	B1	29/06/2022	5/7/22	8. Write a program to count the number of ones and zeros in two consecutive memory locations.	CO-2 L-3	Black Board /Execution

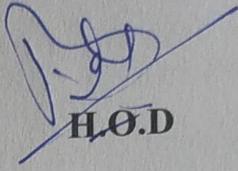
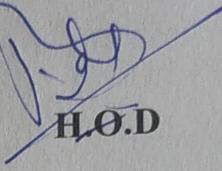
PART -B Conduct the following experiments on an ARM7TDMI/LPC2148 evaluation board using Evaluation version of Embedded 'C' & Keil Uvision-4 tool/compiler

9	B1	06/07/2022	12/7/22	9. Display "Hello World" message using Internal UART.	CO3 L3	Black Board /Execution
10	B1	13/07/2022	12/7/22	10. Interface and Control a DC Motor.	CO3 L3	Black Board /Execution
11	B1	20/07/2022	19/7/22	11. Interface a Stepper motor and rotate it in clockwise and anti-clockwise direction.	CO3 L3	Black Board /Execution
12	B1	27/07/2022	19/7/22	12. Determine Digital output for a given Analog input using Internal ADC of ARM controller.	CO3 L3	Black Board /Execution
13	B1	03/08/2022	26/7/22	13. Interface a DAC and generate Triangular and Square waveforms.	CO3 L3	Black Board /Execution
14	B1	10/08/2022	26/7/22	14. Interface a 4x4 keyboard and display the key code on an LCD.	CO3 L3	Black Board /Execution
15	B1	17/08/2022	19/8/22	15. Demonstrate the use of an external interrupt to toggle an LED On/Off.	CO3 L3	Black Board /Execution
16	B1	24/08/2022	19/8/22	16. Display the Hex digits 0 to F on a 7-segment LED interface, with an appropriate delay in between	CO3 L3	Black Board /Execution

17	B1	30/08/2022	2 / 9 / 22	Lab Internals		
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Staff

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APS College of Engineering

Somanahalli, Kanakapura Road, Bangalore-82
Department of Information Science and Engineering

Subject Name: FILE STRUCTURES

Subject Code	18IS61	CIE Marks	40
Number of Lecture Hours/Week	3:2:0	SEE Marks	60
Total Number of Lecture Hours	50	Exam Hours	03
SEMESTER	V	CREDITS	04
Name of the Faculty	VIDYA V PATIL	Academic Year	2022-23

Course Delivery Plan

Period /Hour	Planned Date	Execution Date	Topic / Session topic	CO & REVISED Bloom's Taxonomy
Module-1				
1	04/04/2022	04/04/2022	Introduction: File Structures: The Heart of the file structure Design, A Short History of File Structure Design, A Conceptual Toolkit.	CO-1 L-1,L-2,L-3
2	05/04/2022	05/04/2022	Fundamental File Operations: Physical Files and Logical Files, Opening Files, Closing Files, Reading and Writing.	CO-1 L-1,L-2,L-3
3	07/04/2022	07/04/2022	Seeking, Special Characters, The Unix Directory Structure, Physical devices and Logical Files, File-related Header Files, UNIX file System Commands.	CO-1 L-1,L-2,L-3
4	08/04/2022	08/04/2022	Secondary Storage and System Software: Disks, Magnetic Tape, Disk versus Tape.	CO-1 L-1,L-2,L-3
5	09/04/2022	09/04/2022	CD-ROM: Introduction, Physical Organization, Strengths and Weaknesses; Storage as Hierarchy, A journey of a Byte, Buffer Management, Input /Output in UNIX.	CO-1 L-1,L-2,L-3
6	11/04/2022	11/04/2022	Fundamental File Structure Concepts, Managing Files of Records : Field and Record Organization, Using Classes to Manipulate Buffers.	CO-1 L-1,L-2
7	12/04/2022	12/04/2022	Using Inheritance for Record Buffer Classes, Managing Fixed Length, Fixed Field Buffers, An Object-Oriented Class for Record Files.	CO-1 L-1,L-2,L-3
8	18/04/2022	18/04/2022	Record Access, More about Record Structures.	CO-1 L-1,L-2,L-3
9	19/04/2022	19/04/2022	Encapsulating Record Operations in a Single Class.	CO-1 L-1,L-2,L-3

10	21/04/2022	21/04/2022	File Access and File Organization.	CO-1 L-1,L-2,L-3
1st Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 1)				
11	22/04/2022	22/04/2022	Organization of Files for Performance, Indexing: Data Compression.	CO-2 L-1,L-2,L-3
12	23/04/2022	23/04/2022	Reclaiming Space in files, Internal Sorting and Binary Searching.	CO-2 L-1,L-2,L-3
13	25/04/2022	25/04/2022	Keysorting; What is an Index?	CO-2 L-1,L-2,L-3
14	26/04/2022	26/04/2022	A Simple Index for Entry-Sequenced File Using Template Classes in C++ for Object I/O.	CO-2 L-1,L-2,L-3
15	28/04/2022	28/04/2022	Object-Oriented support for Indexed, Entry-Sequenced Files of Data Objects.	CO-2 L-1,L-2,L-3]
16	29/04/2022	29/04/2022	Indexes that are too large to hold in Memory.	CO-2 L-1,L-2,L-3
17	30/04/2022	30/04/2022	Indexing to provide access by Multiple keys.	CO-2 L-1,L-2,L-3
18	02/05/2022	05/05/2022	Retrieval Using Combinations of Secondary Keys.	CO-2 L-1,L-2,L-3
19	04/05/2022	06/05/2022	Improving the Secondary Index structure: Inverted Lists.	CO-2 L-1,L-2,L-3
20	05/05/2022	12/05/2022	Selective indexes, Binding.	CO-2 L-1,L-2,L-3
2nd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 2)				
21	06/05/2022	13/05/2022	Consequential Processing and the Sorting of Large Files: A Model for Implementing Cosequential Processes, Application of the Model to a General Ledger Program.	CO-3 L-1,L-2,L-3
22	09/05/2022	14/05/2022	Extension of the Model to include Mutiway Merging.	CO-3 L-1,L-2,L-3
23	10/05/2022	19/05/2022	A Second Look at Sorting in Memory.	CO-3 L-1,L-2,L-3
24	16/05/2022	28/05/2022	Merging as a Way of Sorting Large Files on Disk.	CO-3 L-1,L-2,L-3
25	17/05/2022	24/05/2022	Multi-Level Indexing and B-Trees: The invention of B-Tree, Statement of the problem.	CO-3 L-1,L-2,L-3
26	19/05/2022	26/05/2022 24/05/2022	Indexing with Binary Search Trees; Multi-Level Indexing, B-Trees.	CO-3 L-1,L-2,L-3

27	20/05/2022	28/05/22 30/05/22	Example of Creating a B-Tree, An Object-Oriented Representation of B-Trees, B-Tree Methods.	CO-3 L-1,L-2,L-3
28	23/05/2022	31/05/22	Nomenclature, Formal Definition of B-Tree Properties, Worst-case Search Depth.	CO-3 L-1,L-2,L-3
29	24/05/2022	02/06/22	Deletion, Merging and Redistribution.	CO-3 L-1,L-2,L-3
30	26/05/2022	03/06/22	Redistribution during insertion; B* Trees, Buffering of pages; Virtual BTrees; Variable-length Records and keys.	CO-3 L-1,L-2,L-3

3rd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 3)

31	27/05/2022	06/06/22	Indexed Sequential File Access and Prefix B+ Trees: Indexed Sequential Access,	CO-4 L-1,L-2,L-3
32	28/05/2022	07/06/22	Maintaining a Sequence Set.	CO-4 L-1,L-2,L-3
33	30/05/2022	09/06/22	Adding a Simple Index to the Sequence Set.	CO-4 L-1,L-2,L-3
34	31/05/2022	10/06/22	The Content of the Index: Separators Instead of Keys.	CO-4 L-1,L-2,L-3
35	02/06/2022	11/06/22	The Simple Prefix B+ Tree and its maintenance.	CO-4 L-1,L-2,L-3
36	03/06/2022	16/06/22	Index Set Block Size.	CO-4 L-1,L-2,L-3
37	09/06/2022	17/06/22	Internal Structure of Index Set Blocks: A Variable-order B- Tree.	CO-4 L-1,L-2,L-3
38	10/06/2022	27/06/22	Loading a Simple Prefix B+ Trees.	CO-4 L-1,L-2,L-3
39	11/06/2022	28/06/22	B-Trees.	CO-4 L-1,L-2,L-3
40	13/06/2022	30/06/22	B+ Trees and Simple Prefix B+ Trees in Perspective.	CO-4 L-1,L-2,L-3

4th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 4)

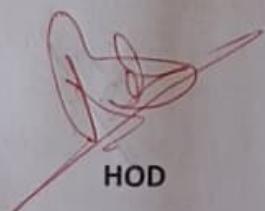
41	14/06/2022	4/07/2022	Hashing: Introduction, A Simple Hashing Algorithm.	CO-5 L-1,L-2,L-3
42	16/06/2022 17/06/2022	04/07/2022	Hashing Functions and Record Distribution.	CO-5 L-1,L-2,L-3

				CO-5
43	27/06/2022 28/06/2022	05/07/22	How much Extra Memory should be used?	L-1,L-2,L-3 CO-5
44	04/07/2022	05/07/22	Collision resolution by progressive overflow.	L-1,L-2,L-3 CO-5
45	05/07/2022	05/07/22	Buckets, Making deletions.	L-1,L-2,L-3 CO-5
46	07/07/2022	11/07/22	Other collision resolution techniques.	L-1,L-2,L-3 CO-5
47	08/07/2022	12/07/22	Patterns of record access.	L-1,L-2,L-3 CO-5
48	09/07/2022	12/07/22	Extendible Hashing: How Extendible Hashing Works, Implementation.	L-1,L-2,L-3 CO-5
49	11/07/2022 12/07/2022	14/07/22	Deletion, Extendible Hashing Performance.	L-1,L-2,L-3 CO-5
50	14/07/2022 15/07/2022	15/07/22	Alternative Approaches.	L-1,L-2,L-3 CO-5

5th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 5)



Staff In-Charge



HOD



APS College of Engineering

Somanahalli, Kanakapura Road, Bangalore-82
Department of Information Science and Engineering

Subject Name: SOFTWARE TESTING

Subject Code	18IS62	IA Marks	40
Number of Lecture Hours/Week	04	Exam Marks	60
Total Number of Lecture Hours	50	Exam Hours	03
SEMESTER	VII	CREDITS	04
Name of the Faculty	Pallavi H B	Academic Year	2021-22

Course Delivery Plan

Period/Hour	Planned Date	Execution Date	Topic / Session topic	CO & REVISED Bloom's Taxonomy
Module-1				
1	04/04/2022	04/04/2022	Basics of Software Testing:Basic definitions, Software Quality , Requirements, Behaviour and Correctness	CO-1,L-1
2	06/04/2022	6/4/2022	Correctness versus Reliability, Testing and Debugging, Test cases	CO-1, L-2
3	07/04/2022	7/4/2022	Insights from a Venn diagram, Identifying test cases	CO-1, L- 2
4	08/04/2022	8/4/2022	Test-generation Strategies, Test Metrics, Error and fault taxonomies	CO-1,L-1
5	09/04/2022	9/4/2022	Levels of testing, Testing and Verification, Static Testing	CO-1, L-2
6	11/04/2022	11/4/2022	Problem Statements: Generalized pseudocode, the triangle problem	CO-1, L-2
7	13/04/2022	13/04/2022	the NextDate function, the commission problem	CO-1,CO-2, L-2
8	18/04/2022	18/04/2022	the SATM (SimpleAutomatic Teller Machine) problem	CO-1, CO-4, L-2
9	20/04/2022	20/4/2022	the currency converter	CO-1, L-2,L-3
10	21/04/2022	21/04/2022	Saturn windshield wiper	CO-4, L-5
1st Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 1)				

<u>Module-2</u>				
11	22/04/2022	25 04 22	Functional Testing: Boundary value analysis, Robustness testing, Worst-case testing	CO-2, L-2,L-3
12	23/04/2022	26 04 22	Robust Worst testing for triangle problem, Nextdate problem and commission problem	CO-2 ,L-3
13	25/04/2022	28 04 22	Equivalence classes, Equivalence test cases for the triangle problem	CO-2, L-3
14	27/04/2022	29 04 22	NextDate function, and the commission problem	CO-2, L-3
15	28/04/2022	04 05 22	Guidelines and observations, Decision tables, Test cases for the triangle problem	CO-2, L-3
16	29/04/2022	6 05 22	NextDate function	CO-2, L-2
17	02/05/2022	9 05 2022	the commission problem, Guidelines and observations	CO-2, L-2
18	04/05/2022	10 05 22	Fault Based Testing: Overview, Assumptions in fault based testing	CO-2, L-5
19	05/05/2022	11 05 2022	Mutation analysis, Fault-based adequacy criteria	CO-2,L-2
20	06/05/2022	16 05 2022	Variations on mutation analysis.	CO-2, L-5

2nd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 2)

<u>Module-3</u>				
21	09/05/2022	18 05 22	Structural Testing: Overview, Statement testing, Branch testing, Condition testing	CO-3, L-1,L-2
22	11/05/2022	18 05 2022	Path testing: DD paths, Test coverage metrics	CO-3, L-2
23	16/05/2022	19 05 2022	Basis path testing, guidelines and observations	CO-3. L-2
24	18/05/2022	23 05 22	Data -Flow testing: Definition-Use testing,	CO-3. L-3
25	19/05/2022	25 05 22	Slice based testing, Guidelines and observations	CO-3, L-2
26	20/05/2022	27 05 22	Test Execution: Overview of test execution	CO-3,L-2
27	23/05/2022	27 05 22	from test case specification to test cases	CO-3, L-2
28	25/05/2022	28 05 22	Scaffolding	CO-3,L-3
29	26/05/2022	28 05 22	Generic versus specific scaffolding, Test oracles	CO-3,L-2
30.	27/05/2022	30 05 22	Self-checks as oracles, Capture and replay	CO-3 L-3,L-5

3rd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 3)

Module-4

31	28/05/2022	30/5/22	Process Framework :Basic principles: Sensitivity, redundancy	CO-4, L-2
32	30/05/2022	1/6/22	restriction, partition, visibility, Feedback, the quality process	CO-4, L-2
33	01/06/2022	2/6/22	Planning and monitoring, Quality goals, Dependability properties ,Analysis Testing	CO-4, L-3
34	02/06/2022	3/6/22	Improving the process, Organizational factors	CO-4, L-3
35	03/06/2022	9/6/22	Planning and Monitoring the Process: Quality and process, Test and analysis strategies and plans	CO-4, L-3
36	09/06/2022	10/6/22	Risk planning, monitoring the process	CO-4, L-2
37	10/06/2022	1/7/6/22	Improving the process, the quality team	CO-4, L-2
38	13/06/2022	15/6/22	Documenting Analysis and Test: Organizing documents, Test strategy document	CO-4,L-3
39	15/06/2022	15/6/22	Analysis and test plan, Test design specifications documents	CO-4,L-3
40	15/06/2022	16/6/22	Test and analysis reports	CO-4,L-5

4th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 4)

Module-5

41	16/06/2022	17/6/22	Integration and Component-Based Software Testing: Overview, Integration testing strategies	CO-5, L-1,L-2
42	17/06/2022	27/6/22	Testing components and assemblies. System, Acceptance	CO-5, L-2
43	27/06/2022	6/7/22	Regression Testing: Overview, System testing	CO-5, L-2
44	04/07/2022	6/7/22	Acceptance testing, Usability, Regression testing	CO-5, L-3
45	06/07/2022	7/7/22	Regression test selection techniques, Test case prioritization and selective execution	CO-5, L-3
46	07/07/2022	8/7/22	Levels of Testing, Integration Testing: Traditional view of testing level	CO-5, L-3
47	08/07/2022	9/7/22	Alternative life-cycle models, The SATM system	CO-5, L-2
48	09/07/2022	11/7/22	Separating integration and system testing	CO-5, L-2
49	11/07/2022 12/07/2022	12/7/22	A closer look at the SATM system,	CO-5, L-2

50	14/07/2022 15/07/2022	1417122 151712	Decomposition-based, call graph-based, Path-based integrations	CO-5, L-2,3
5th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 1)				


Staff In-Charge


HOD



APS College of Engineering

Somanahalli, Kanakapura Road, Bangalore-82
Department of Information Science and Engineering

Subject Name: Web technology and its Applications

Subject Code	18CS63	IA Marks	40
Number of Lecture Hours/Week	04	Exam Marks	60
Total Number of Lecture Hours	40	Exam Hours	03
SEMESTER	VI	CREDITS	03
Name of the Faculty	Shruthi B S	Academic Year	2021-22

Lesson Delivery Plan

Period	Planned Date	Execution Date	Topic / Session topic	Pertaining CO & BT L	Instructional Methods / Activities
Module-1 Introduction to HTML:					
1	4/4/2022	4/4/2022	Introduction to HTML, What is HTML and Where did it come from?	CO-1 L-1 L-2	Black Board/PPT
2	5/4/2022	5/4/2022	HTML Syntax	CO-1 L-1 L-2	Black Board/PPT
3	6/4/2022	6/4/2022	Semantic Markup, Structure of HTML Documents	CO-1 L-1 L-2	Black Board/PPT
4	7/4/2022	7/4/2022	Quick Tour of HTML Elements	CO-1 L-1 L-2	Black Board/PPT
5	9/4/2022	9/4/2022	HTML5 Semantic Structure Elements	CO-1 L-1 L-2	Black Board/PPT
6	11/4/2022	11/4/2022	Introduction to CSS,	CO-1 L-1 L-2	Black Board/PPT
7	12/4/2022	12/4/2022	What is CSS, CSS Syntax	CO-1 L-1 L-2	Black Board/PPT
8	13/4/2022	13/4/2022	Location of Styles, Selectors,	CO-1 L-1 L-2	Black Board/PPT
9	18/4/2022	18/4/2022	The Cascade: How Styles Interact,	CO-1 L-1 L-2	Black Board/PPT
10	19/4/2022	19/4/2022	The Box Model, CSS Text Styling.	CO-1 L-1 L-2	Black Board/PPT
Assignment 1 Q.no 1 to Q.no Q5(Refer Question Bank of Module 1)					

Module-2 HTML Tables and Forms:

11	20/4/2022	22/4/2022	HTML Tables and Forms	CO-2 L-1	Black Board/PPT
12	21/4/2022	23/4/2022	Introducing Tables, Styling Tables,	CO-2 L-1,L-2	Black Board/PPT
13	23/4/2022	23/4/2022	Introducing Forms, Form Control Elements	CO-2 L-1,L-2 L-3	Black Board/PPT
14	25/4/2022	25/4/2022	Table and Form Accessibility, Microformats	CO-2 L-1	Black Board/PPT

15	26/4/2022	26/4/22	Advanced CSS: Layout, Normal Flow	CO-2 L-1,L-2	Black Board/PPT
16	27/4/2022	27/4/22	Positioning Elements, Floating Elements,	CO-2 L-1,L-3	Black Board/PPT
17	28/4/2022	28/4/22	Constructing Multicolumn Layouts	CO-2 L-2, L-3	Black Board/PPT
18	30/4/2022	28/4/22	Approaches to CSS Layout	CO-2 L-1,L-2	Black Board/PPT
19	2/5/2022	4/5/22	Responsive Design	CO-2 L-1	Black Board/PPT
20	4/5/2022	9/5/22	CSS Frameworks	CO-2 L-2	Black Board/PPT

Assignment 2 Q.no 1 to Q.no Q5(Refer Question Bank of Module 2)

MODULE 3- Java Servlet pages

21	6/5/2022	11/5/22	JavaScript: Client-Side Scripting, What is JavaScript and What can it do?,	CO-3 L-1,L-2	Black Board/PPT
22	9/5/2022	12/5/22	JavaScript Design Principles, Where does JavaScript Go?,	CO-3 L-1,L-2	Black Board/PPT demonstration by students
23	11/5/2022	19/5/22	Syntax, JavaScript Objects	CO-3 L-1,L-2	Black Board/PPT
24	16/5/2022	23/5/22	The Document Object Model (DOM), JavaScript Events	CO-3 L-1, L-2	Black Board/PPT
25	17/5/2022	24/5/22	Forms	CO-3 L-1,L-2	Black Board/PPT
26	18/5/2022	25/5/22	Introduction to Server-Side Development with PHP	CO-3 L-1,L-2,L-3	Black Board/PPT
27	20/5/2022	26/5/22	What is Server-Side Development	CO-3 L-1,L-2, L-3	Black Board/PPT
28	23/5/2022	26/5/22	A Web Server's Responsibilities	CO-3 L-2,L-3	Black Board/PPT
29	24/5/2022	30/5/22	Quick Tour of PHP	CO-3 L-1,L-2	Black Board/PPT
30	25/5/2022	31/5/22	Program Control, Functions	CO-3 L-1,L-2	Black Board/PPT

Assignment 3 Q.no 1 to Q.no Q5(Refer Question Bank of Module 3)

Module-4 PHP

31	26/5/2022	11/6/22	PHP Arrays and Superglobals,	CO-4 L-1	Black Board/PPT
32	30/5/2022	6/6/22	Arrays, \$_GET and \$_POST Superglobal Arrays	CO-4 L-1, L-2	Black Board/PPT
33	31/5/2022	7/6/22	\$_SERVER Array, \$_FILES Array,	CO-4 L-1, L-2	Black Board/PPT demonstration by students

34	1/6/2022	8/6/22	Reading/Writing Files, PHP Classes and Objects	CO-4 L-1	Black Board/PPT
35	2/6/2022	9/6/22	Object-Oriented Overview, Classes and Objects in PHP	CO-4 L-1	Black Board/PPT
36	9/6/2022	16/6/22	Object Oriented Design	CO-4 L-1	Black Board/PPT
37	13/6/2022	27/6/22	Error Handling and Validation	CO-4 L-1 L-2	Black Board/PPT
38	14/6/2022	28/6/22	What are Errors and Exceptions?	CO-4 L-1,L-2	Black Board/PPT
39	15/6/2022	29/6/22	PHP Error Reporting,	CO-4 L-1 L-2	Black Board/PPT
40	17/6/2022	30/6/22	PHP Error and Exception Handling	CO-4 L-1,L-2	Black Board/PPT

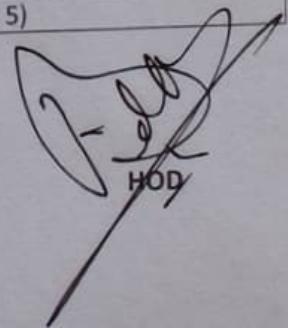
Assignment 4 Q.no 1 to Q.no Q5(Refer Question Bank of Module 4)

Module-5 Managing State

41	27/6/2022	1/7/22	Managing State, The Problem of State in Web Applications	CO-5 L-1	Black Board/PPT
42	28/6/2022	6/7/22	Passing Information via Query Strings,	CO-5 L-1, L-2	Black Board/PPT
43	4/7/2022	6/7/22	Passing Information via the URL Path	CO-5 L-1,L-2	Black Board/PPT
44	5/7/2022	6/7/22	Cookies, Serialization, Session State	CO-5 L-1,L-2 L-3	Black Board/PPT
45	6/7/2022	11/7/22	HTML5 Web Storage, Caching	CO-5,L-3	Black Board/PPT
46	7/7/2022	12/7/22	Advanced JavaScript and jQuery Foundations	CO-5 L-2,L-3	Black Board/PPT
47	9/7/2022	13/7/22	AJAX, Asynchronous File Transmission	CO-5 L-1	Black Board/PPT
48	11/7/2022	14/7/22	Animation, Backbone MVC Frameworks,	CO-5 L-1,L-2	Black Board/PPT
49	12/7/2022	14/7/22	XML Processing and Web Services, XML Processing	CO-5 L-1,L-2	Black Board/PPT
50	13/7/2022	15/7/22	JSON, Overview of Web Services.	CO-5 L-1,L-2, L-3	Black Board/PPT

Assignment 5 Q.no 1 to Q.no Q5(Refer Question Bank of Module 5)

FBS
Staff



HOD



APS College of Engineering

Somanahalli, Kanakapura Road, Bangalore-82
Department of Information Science and Engineering

Subject Name: INFORMATION MANAGEMENT SYSTEM

Subject Code	18IS645	CIE Marks	40
Number of Lecture Hours/Week	3:0:0	SEE Marks	60
Total Number of Lecture Hours	40	Exam Hours	03
SEMESTER	VI	CREDITS	03
Name of the Faculty	SHRAVYA S	Academic Year	2021-22

Course Delivery Plan

Period /Hour	Planned Date	Execution Date	Topic / Session topic	CO & REVISED Bloom's Taxonomy
Module-1				
1	4/04/2022	4/4/2022	Information Systems in Business : Introduction, The real world of Information Systems, Networks, What you need to know, The fundamental role of IS in business	CO-1 L-1,L-2,L-3
2	5/04/2022	5/4/2022	The fundamental role of IS in business, Trends in IS, Managerial challenges of IT.	CO-1 L-1,L-2,L-3
3	7/04/2022 9/04/2022	6/4/2022 6/4/2022	System Concepts: A foundation, Components of an Information System, Information System Resources, Information System activities	CO-1 L-1,L-2,L-3
4	11/04/2022	7/4/2022	Recognizing Information Systems. Fundamentals of strategic advantages: Strategic IT	CO-1 L-1,L-2,L-3
5	12/04/2022	18/4/2022	Competitive strategy concepts, The competitive advantage of IT, Strategic uses of IT	CO-1 L-1,L-2,L-3
6	18/04/2022 19/04/2022	19/4/2022 19/4/2022	Building a customer-focused business, The value chain and strategic IS	CO-1 L-1,L-2
7	21/04/2022	21/4/2022	Reengineering business processes, Becoming an agile company Creating a virtual company	CO-1 L-1,L-2,L-3
8	23/04/2022	21/4/2022	Building a knowledge creating company	CO-1 L-1,L-2,L-3

1st Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 1)

Module-2

9	25/04/2022	23/4/2022	Enterprise Business Systems: Introduction	CO-2 L-1,L-2,L-3
10	26/04/2022 28/04/2022	25/4/2022	Cross-functional enterprise applications, Enterprise application integration	CO-2 L-1,L-2,L-3

11	30/04/2022	26/4/2022	Transaction processing systems	CO-2 L-1,L-2,L-3
12	2/05/2022	9/5/2022	Enterprise collaboration systems	CO-2 L-1,L-2,L-3
13	5/05/2022 9/05/2022	9/5/2022	Functional Business Systems: Introduction	CO-2 L-1,L-2,L-3]
14	10/05/2022	16/5/2022	Marketing systems, Manufacturing systems	CO-2 L-1,L-2,L-3
15	16/05/2022	19/5/2022	Human resource systems, Accounting systems	CO-2 L-1,L-2,L-3
16	17/05/2022	19/5/2022	Financial management systems	CO-2 L-1,L-2,L-3

2nd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 2)

Module-3

17	19/05/2022	23/5/2022	Customer relationship management: Introduction, What is CRM? The three phases of CRM	CO-3 L-1,L-2,L-3
18	23/05/2022	24/5/2022	Benefits and challenges of CRM	CO-3 L-1,L-2,L-3
19	24/05/2022	24/5/2022	Trends in CRM Enterprise resource planning: Introduction	CO-3 L-1,L-2,L-3
20	26/05/2022	26/5/2022	What is ERP? Benefits and challenges of ERP	CO-3 L-1,L-2,L-3
21	28/05/2022 30/05/2022	26/5/2022	Trends in ERP	CO-3 L-1,L-2,L-3
22	31/05/2022	30/5/22	Supply chain Management: Introduction	CO-3 L-1,L-2,L-3
23	2/06/2022	31/5/22	What is SCM? The role of SCM	CO-3 L-1,L-2,L-3
24	9/06/2022	31/5/22	Benefits and challenges of SCM, Trends in SCM	CO-3 L-1,L-2,L-3

3rd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 3)

Module-4

25	11/06/2022	2/6/22	Electronic commerce fundamentals: Introduction, The scope of ecommerce	CO-4 L-1,L-2,L-3
26	13/06/2022	6/6/22	Essential ecommerce, processes, Electronic payment processes	CO-4 L-1,L-2,L-3
27	14/06/2022	7/6/22	e-Commerce applications and issues	CO-4 L-1,L-2,L-3

28	16/06/2022	7/6/22	Ecommerce application trends	CO-4 L-1,L-2,L-3
29	27/06/2022	9/6/22	Business-to- Consumer e-commerce	CO-4 L-1,L-2,L-3
30	28/06/2022	9/6/22	Web store requirements	CO-4 L-1,L-2,L-3
31	4/07/2022	11/6/22	Business-to- Business e-commerce, e-commerce marketplaces	CO-4 L-1,L-2,L-3
32	4/07/2022	11/6/22	Clicks and bricks in ecommerce	CO-4 L-1,L-2,L-3

4th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 4)

Module-5

33	5/06/2022	27/6/22	Decision support in business: Introduction	CO-5 L-1,L-2,L-3
34	9/07/2022	28/6/22	Decision support trends, Decision support systems (DSS)	CO-5 L-1,L-2,L-3
35	9/07/2022	4/7/22	Management Information Systems	CO-5 L-1,L-2,L-3
36	11/07/2022	4/7/22	Online analytical processing	CO-5 L-1,L-2,L-3
37	12/07/2022	5/7/22	Using DSS, Executive information systems	CO-5 L-1,L-2,L-3
38	12/07/2022	5/7/22	Enterprise portals and decision support	CO-5 L-1,L-2,L-3
39	14/07/2022	12/7/22	Knowledge management systems, Business and Artificial Intelligence (AI)	CO-5 L-1,L-2,L-3
40	14/07/2022	12/7/22	An overview of AI, Expert systems	CO-5 L-1,L-2,L-3

5th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 5)

Saranya S
Staff In-Charge

HOD

Subject Code	18MAT653	IA Marks	20
Number of Lecture Hours/Week	03	Exam Marks	80
Total Number of Lecture Hours	40	Exam Hours	03
Credits 03			

Course objectives:

- CLO1: To familiarize the the importance of solving system of equations
- CLO2: To learn linear transformations and matrix of linear transformation.
- CLO3: To familiarize Gram-schmidt orthogonalization process.
- CLO4: To study singular value decomposition and constrained optimization.
- CLO5: To learn graphs, networks and computer graphics.

Course outcomes:

- CO1: Apply LU decomposition and other methods to solve system or equations.
- CO2: To study Linear transformation and Matrix of linear transformation
- CO3: Apply different methods to othogoanlize and factorize matrices.
- CO4: To demonstrate the expansion of matrix by singular value decomposition and quadratic forms.
- CO5: To apply computer graphics and matrices in engineering.

Text Books				
1	David C lay	Linear Algebra and its applications	Pearson Education	2017
2	Gilbert Strang	Introduction to Linear Algebra	Pearson Education	2016

Course Delivery Plan

Module3 : Inner Product Space

Period	Planned Date	Execution Date	Topic / Session topic	Pertaining CO & BTL	Instructional Method/ Activity
1	22/4/22	22/4	Definition of Inner product space,Problems	CO3, L1	Chalk& talk
2	22/4/22	22/4	Problems on Inner product space	CO3, L1	Chalk& talk
3	29/4/22	29/4	Results on Inner product space	CO3, L2	Chalk& talk
4	29/4/22	29/4	Projection of a line, problems on Projection	CO3, L2	Chalk& talk
5	6/5/22	13/5	Orthogonal and orthonormal sets	CO3, L3	Chalk& talk
6	6/5/22	13/5	Problems	CO3, L3	Chalk& talk
7	20/5/22	20/5	Gram-schmidt Process	CO3, L3	Chalk& talk

8	20/5/22	20/5	QR Decomposition	CO3, L3	Chalk& talk
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Module 4: Introduction to Spectral Theory

Lecture	Planned Date	Execution Date	Topic / Session topic	Pertaining CO & BTL	Instructional Method/ Activity
1	27/5/22	27/5	Eigen values and Eigen vectors	CO4, L2	Chalk& talk
2	27/5/22	27/5	Diagonalization	CO4, L2	Chalk& talk
3	3/6/22	8/6	Orthogonal Diagonalization	CO4, L3	Chalk& talk
4	3/6/22	8/6	Quadratic Forms	CO4, L3	Chalk& talk
5	10/6/22	1/7	Constrained Optimization	CO4, L3	Chalk& talk
6	10/6/22	1/7	Change of variables in Quadratic form	CO4, L3	Chalk& talk
7	17/6/22	4/7	Singular Value Decomposition	CO4, L3	Chalk& talk
8	17/6/22	4/7	Problems on SVD	CO4, L3	Chalk& talk

Module 5: Engineering Applications

Period	Planned Date	Execution Date	Topic / Session topic	Pertaining CO & BTL	Instructional Method/ Activity
1	24/6/22	5/7	Applications on graphs	CO5, L2	Chalk& talk
2	24/6/22	5/7	Applications on graphs and networks	CO5, L3	Chalk& talk
3	30/6/22	5/7	Problems	CO5, L3	Chalk& talk
4	30/6/22		Matrices in Engineering	CO5, L3	Chalk& talk

X. S. Aneel

Faculty

Neeraj

HOD

APS College of Engineering, Somanahalli, Bengaluru-82
Department of Mechanical Engineering.

SEM-6th(ME)

[As per Choice Based Credit System (CBCS) scheme]

Name of the Faculty: Ravi Kumar R

Year: 2021-2022

Sub: Supply Chain Management

Subject Code	18ME652	IA Marks	40
Number of Lecture Hours/Week	04	Exam Marks	100
Total Number of Lecture Hours	50	Exam Hours	03
Credits 04			

Course outcomes:

Upon successful completion of this course you should be able to:

- CO1: Understand the framework and scope of supply chain management.
- CO2: Build and manage a competitive supply chain using strategies, models, techniques and informationtechnology.
- CO3: Plan the demand, inventory and supply and optimize supply chain network.
- CO4: Understand the emerging trends of IT on Supply chain.
- CO5:Understand the impact of IT on Supply chain

Text Books	
1	Supply Chain Management- Textand CasesJanat Shah Pearson Education 2009
2	Supply Chain Management-Strategy Planning and OperationSunil Chopra and Peter MeindlPHI Learning / PearsonEducation2007
Reference Books	
1	Business Logistics and Supply Chain ManagementBallou Ronald H Pearson Education 5th Edition,2007
2	Designing and Managing theSupply Chain: Concepts, Strategies, and Cases David Simchi-Levi,Philip Kaminsky,Edith Simchi-LeviTata McGraw-Hill 2005
3	Supply Chain Management- Concept and Case Altekar Rahul V PHI 2005
4	Modeling the Supply Chain Shapiro Jeremy F Thomson Learning SecondReprint , 2002

Lesson Delivery Plan

Period	Date		Topic / Session topic	Pertaining CO/CLOs & BTL	Instructional Methods / Activities
	Planned	Executed			
1	6/04/22	6/04/22	MODULE 01 Introduction: Supply Chain	L1,L2,CO1	Blackboard & ICT-PPT
2	6/04/22	6/04/22	Fundamentals	L1,L2,CO1	Blackboard & ICT
3	6/04/22	6/04/22	Evolution-	L1,L2,CO1	Blackboard & ICT
4	8/04/22	8/04/22	Role in Economy	L1,L2,CO1	Blackboard & ICT
5	8/04/22	8/04/22	Importance	L3,L2,CO1	Blackboard & ICT
6	13/04/22	13/04/22	Decision Phases - Supplier	L2,L3,CO1	Blackboard & ICT
7	13/04/22	13/04/22	Manufacturer-Customer chain. - Enablers/	L2,L3,CO1	Blackboard & ICT
8	20/04/22	20/04/22	Drivers of Supply Chain	L2,L3,CO1	Blackboard & ICT
9	20/04/22	20/04/22	Performance. Supply chain strategy -	L2,L3,CO1	Blackboard & ICT
10	22/04/22	22/04/22	Supply Chain Performance Measures	L2,CO1	Blackboard & ICT
	<u>Assignment Given To Students</u>		<u>To module -01</u>		
11	22/04/22	22/04/22	Strategic Sourcing Module: 02	L2,CO2	Blackboard & ICT
12	27/04/22	27/04/22	Outsourcing	L1,L2,CO2	Blackboard & ICT
13	29/04/22	29/04/22	Make Vs buy	L3,CO2	Blackboard & ICT
14	29/04/22	29/04/22	Identifying core processes	L2,L3,CO2	Blackboard & ICT
15	4/05/22	4/05/22	Market Vs Hierarchy	L1,L2,CO2	Blackboard & ICT
16	4/05/22	4/05/22	Make Vs buy continuum	L1,L2,CO2	Blackboard & ICT
17	06/05/22	06/05/22	Sourcing strategy	L3,CO2	Blackboard & ICT
18	06/05/22	06/05/22	Creating a world class supply Base	L2,CO2	Blackboard & ICT
19	11/05/22	11/05/22	Supplier Development	L2,CO2	Blackboard & ICT
20	11/05/22	11/05/22	World Wide Sourcing.	L4,CO2	Blackboard & ICT
<u>Assignment Given to Students to Module: 02</u>					

21		18/05/22	18/05/22	Module 3 : Warehouse Management Stores management	L2, CO3	Blackboard & ICT
22		18/05/22	18/05/22	stores systems and procedures-	L2, CO3	Blackboard & ICT
23		20/05/22	20/05/22	incoming materials controlstoresaccounting and stock verification Obsolete,	L2, CO3	Blackboard & ICT
24				surplus and scrap-value analysis-material handlingtransportation and traffic management-operational efficiency	L3, CO3	Blackboard & ICT
25		25/05/22	25/05/22	productivity-cost effectiveness- performance measurement.	L3, CO3	Blackboard & ICT
26		25/05/22	25/05/22	Supply Chain Network	L3, CO3	Blackboard & ICT
27		27/05/22	27/05/22	Distribution Network Design - Role	L3, CO3	Blackboard & ICT
28		27/05/22	27/05/22	Factors Influencing Options, Value Addition , Distribution Strategies	L2, CO3	Blackboard & ICT
29		01/06/22	1/6/22	Models for Facility Location	L2, CO3	Blackboard & ICT
30		01/06/22	1/6/22	Capacity allocation.	L3, CO3	Blackboard & ICT
31		03/06/22	2/6/22	Module 4 :Distribution Center LocationModels.	L3, CO3	Blackboard & ICT
32		03/06/22	3/6/22	Supply Chain Network	L2, CO3	Blackboard & ICT
33		10/06/22	10/6/22	optimization models.	L2, CO3	Blackboard & ICT
34		10/06/22	10/6/22	Impact of uncertainty on Network Design	L2, CO3	Blackboard & ICT
35		15/06/22	15/6/22	Network Designdecisions using.	L2, CO3	Blackboard & ICT
		15/06/22	15/6/22	Decision trees Problems	L3, CO3	Blackboard & ICT
37		17/06/22	17/6/22	Decision trees Problems	L3, CO3	Blackboard & ICT
38		17/06/22	17/6/22	Planning Demand, -multiple item	L2, CO3	Blackboard & ICT
39		01/07/22	1/7/22	multiple location inventory management	L2, CO3	Blackboard & ICT
40		01/07/22	07/7/22	Pricing and RevenueManagement.	L3, CO3	Blackboard & ICT
41		01/07/22	01/7/22	Module 5 : Current Trends: Supply Chain IntegrationBuilding partnership and trust in Supply chain Value ofInformation: Bullwhip Effect	L4,CO4	Blackboard & ICT

Assignment Given ON Module:03 to Students

Assignment Given on Module:04 to Students .

42	06/07/22	6/7/22	Effective forecasting - Coordinating the supply chain.	L4,CO4	Blackboard & ICT
43	06/07/22	6/7/22	Supply Chain restructuring, Supply Chain Mapping,	L3,CO4	Blackboard & ICT
44	08/07/22	7/7/22	Supply Chain process restructuring	L3,CO4	Blackboard & ICT
45	08/07/22	8/7/22	Postpone the point of differentiation	L3,CO4	Blackboard & ICT
46	13/07/22	13/7/22	IT in Supply Chain	L3,CO5	Blackboard & ICT
47	13/07/22	13/7/22	Agile Supply Chains	L3,CO5	Blackboard & ICT
48	15/07/22	14/7/22	Reverse Supply chain.	L2,CO5	Blackboard & ICT
49	15/07/22	15/7/22	Future of IT in supply chain	L2,L3,CO5	Blackboard & ICT
50	15/07/22	16/7/22	EBusiness in supply chain.	L2,L3,CO5	Blackboard & ICT

Assignment Given on Module: 05 to Students

STAFF

HOD

PRINCIPAL

H.O.D. of Mech Engg.
APSCE, Somanahalli,
Bangalore-560082

APS College of Engineering, Somanahalli, Bengaluru-82
Department of Information Science & Engineering
[As per Choice Based Credit System (CBCS) scheme]

Sem:6th

Year: 2021-22(EVEN)

Name of the Faculty: Prof. Pallavi H B+Prof. Shruthi B S

Subject Code	18ISL66 ST Lab	IA Marks	40
Number of Lecture Hours/Week	0:2:2	Exam Marks	60
Total Number of Lecture Hours	36	Exam Hours	03
Credits 02			

Course Objective:

CO 1: List out the requirements for the given problem

CO 2: Design and implement the solution for given problem in any programming language(C,C++,JAVA)

CO 3: Derive test cases for any given problem

CO 4: Apply the appropriate technique for the design of flow graph

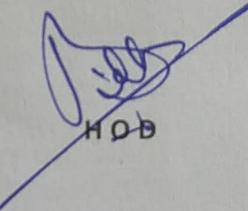
CO 5: Create appropriate document for the software artefact

Period	Batch	Planned Date	Execution Date	Topic / Session topic	Pertaining CO/CLOs& BLT	Instructional Methods / Activities
1	B1	5/4/22	5/4/22	Design and develop a program in a language of your choice to solve the triangle problem defined as follows: Accept three integers which are supposed to be the three sides of a triangle and determine if the three values represent an equilateral triangle, isosceles triangle, scalene triangle, or they do not form a triangle at all. Assume that the upper limit for the size of any side is 10. Derive test cases for your program based on boundary-value analysis, execute the test cases and discuss the results.	CO 1 L3	Black Board/Execution
	B2	7/4/22	7/4/22			
2	B1	12/4/22	12/4/22	Design, develop, code and run the program in any suitable language to solve the commission problem. Analyze it from the perspective of boundary value testing, derive different test cases, execute these test cases and discuss the test results	CO 2 CO 3 L3	Black Board/Execution
	B2	21/4/22	21/4/22			
3	B1	19/4/22	19/4/22	Design, develop, code and run the program in any suitable language to implement the NextDate function. Analyze it from the perspective of boundary value testing, derive different test cases, execute these test cases and discuss the test results.	CO 2 CO 3 L3	Black Board/Execution
	B2	21/4/22	21/4/22			

	B1	26/4/22	26/4	Design and develop a program in a language of your choice to solve the triangle problem defined as follows: Accept three integers which are supposed to be the three sides of a triangle and determine if the three values represent an equilateral triangle, isosceles triangle, scalene triangle, or they do not form a triangle at all. Assume that the upper limit for the size of any side is 10. Derive test cases for your program based on equivalence class partitioning, execute the test cases and discuss the results	CO 2 CO3 L3	Black Board/Execution
4	B2	28/4/22	28/4			
5	B1	10/5/22	10/5/22	Design, develop, code and run the program in any suitable language to solve the commission problem. Analyze it from the perspective of equivalence class testing, derive different test cases, execute these test cases and discuss the test results.	CO 2 CO3 CO 4 L3	Black Board/Execution
5	B2	5/5/22	5/5/22			
6	B1	17/5/22	17/5/22	Design, develop, code and run the program in any suitable language to implement the NextDate function. Analyze it from the perspective of equivalence class value testing, derive different test cases, execute these test cases and discuss the test results	CO 2 CO3 CO 4 L3	Black Board/Execution
6	B2	19/5/22	19/5/22			
7	B1	24/5/22	24/5/22	Design and develop a program in a language of your choice to solve the triangle problem defined as follows: Accept three integers which are supposed to be the three sides of a triangle and determine if the three values represent an equilateral triangle, isosceles triangle, scalene triangle, or they do not form a triangle at all. Derive test cases for your program based on decision-table approach, execute the test cases and discuss the results.	CO 5 L3	Black Board/Execution
7	B2	19/5/22	19/5/22			
8	B1	31/5/22	31/5/22	Design, develop, code and run the program in any suitable language to solve the commission problem. Analyze it from the perspective of decision table-based testing, derive different test cases, execute these test cases and discuss the test results.	CO 5 L3	Black Board/Execution
8	B2	26/5/22	26/5/22			
9	B1	14/6/22	14/6/22	Design, develop, code and run the program in any suitable language to solve the commission	CO 5 L3	Black Board/Execution
9	B2	26/5/22	26/5/22			
10	B1	14/6/22	14/6/22	Design, develop, code and run the program in any suitable language to implement the binary search algorithm. Determine the	CO 5 L3	Black Board/Execution
10	B2	21/6/22	21/6/22			

			basis paths and using them derive different test cases, execute these test cases and discuss the test results		
11	B1	28/6/22	28/6/22	Design, develop, code and run the program in any suitable language to implement the quicksort algorithm. Determine the basis paths and using them derive different test cases, execute these test cases and discuss the test results.	CO 5 L3
	B2	21/6/22	21/6/22		
12	B1	28/6/22	28/6/22	Design, develop, code and run the program in any suitable language to implement an absolute letter grading procedure, making suitable assumptions. Determine the basis paths and using them derive different test cases, execute these test cases and discuss the test results	CO 5 L3
	B2	16/6/22	16/6/22		
13	B1	5/7/22	5/7/22	Revision	
	B2	5/7/22	5/7/22		
14	B1	7/7/22	7/7/22	Lab Internals	
	B2	7/7/22	7/7/22		


Staff In charge


HOD

APS College of Engineering, Somanahalli, Bengaluru-82
Department of Information Science & Engineering
[As per Choice Based Credit System (CBCS) scheme]

Sem: 6th

Name of the Faculty: Vidya V Patil+ Laximikantha K

Year: 2021-22(Even)

Subject Code	18ISL67	IA Marks	40
Number of Lecture Hours/Week	0:2:2	Exam Marks	60
Total Number of Lecture Hours	36	Exam Hours	03
Credits 02			

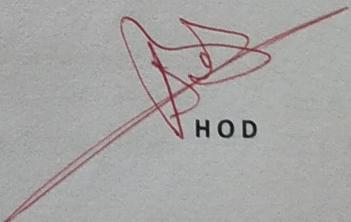
Course Delivery Plan

Period	Batch	Planned Date	Execution Date	Topic / Session topic	CO & REVISED Bloom's Taxonomy	Instructional Methods / Activities
1	B1	7/04/2022	7/4/2022	1. Write a program to read series of names, one per line, from standard input and write these names spelled in reverse order to the standard output using I/O redirection and pipes. Repeat the exercise using an input file specified by the user instead of the standard input and using an output file specified by the user instead of the standard output.	CO 1 L-3	Black Board/Execution
	B2	05/04/2022	5/4/2022			
2	B1	21/04/2022	21/04/2022	2. Write a program to read and write student objects with fixed-length records and the fields delimited by " ". Implement pack (), unpack (), modify () and search () methods.	CO 1 L-3	Black Board/Execution
	B2	12/04/2022	12/4/2022			
3	B1	28/04/2022	28/4/2022	3. Write a program to read and write student objects with Variable - Length records using any suitable record structure. Implement pack (), unpack (), modify () and search () methods	CO 1 L-3	Black Board/Execution
	B2	19/04/2022	19/4/2022			
4	B1	05/05/2022	5/5/2022	4. Write a program to write student objects with Variable - Length records using any suitable record structure and to read from this file a student record using RRN.	CO 1 L-3	Black Board/Execution
	B2	26/04/2022	26/4/2022			
5	B1	19/05/2022	19/05/22	5. Write a program to implement simple index on primary key for a file of student objects. Implement add (), search (), delete () using the index.	CO 2 L-3	Black Board/Execution
	B2	10/05/2022	10/5/22			

(S)

6	B1	26/05/2022	26/05/22	6. Write a program to implement index on secondary key, the name, for a file of student objects. Implement add(), search(), delete() using the secondary index.	CO 2 L-3	Black Board/Execution
	B2	17/05/2022	17/5/22			
7	B1	02/06/2022	02/06/22	7. Write a program to read two lists of names and then match the names in the two lists using Consequential Match based on a single loop. Output the names common to both the lists.	CO 3, L-3	Black Board/Execution
	B2	24/05/2022	24/05/22			
8	B1	09/06/2022	9/6/22	7. Write a program to read two lists of names and then match the names in the two lists using Consequential Match based on a single loop. Output the names common to both the lists.(Continues)	CO 3, L-3	Black Board/Execution
	B2	31/05/2022	07/06/22			
9	B1	16/06/2022	16/06/22	8. Write a program to read k Lists of names and merge them using k-way merge algorithm with k=8	CO 3, L-3	Black Board/Execution
	B2	14/06/2022	28/06/22			
10	B1	16/06/2022	30/06/22	8. Write a program to read k Lists of names and merge them using k-way merge algorithm with k=8(Continues)	CO 3, L-3	Black Board/Execution
	B2	28/06/2022	5/7/22			
11	B1	07/07/2022	7/7/22	Revision		
	B2	05/07/2022	12/7/22			
12	B1	14/07/2022	14/7/22	Lab Internals		
	B2	12/07/2022	14/7/22			

V.V.Pattu
Staff In charge



HOD

APS College of Engineering, Somanahalli, Bengaluru-82
Department of Information Science & Engineering
[As per Choice Based Credit System (CBCS) scheme]

Sem:6

Year: 2021-22(Even)

Name of the Faculty: Nandeeswar S B+ Shruthi B S

Subject Code	18CSMP68	IA Marks	40
Number of Lecture Hours/Week	0:2:2	Exam Marks	60
Total Number of Lecture Hours	36	Exam Hours	03
Credits 02			

Period	Batch	Planned Date	Execution Date	Topic / Session topic	Pertaining CO/CLOs& BLT	Instructional Methods / Activities
1	B1	4/4/22	4/4/22	Introduction to Basics	CO L3	Black Board/Execution
	B2	6/4/22	6/4/22			
2	B1	11/4/22	11/4/22	Basic program for familiarization of android development studio	CO 2 CO 3 L3	Black Board/Execution
	B2	13/4/22	13/4/22			
3	B1	18/4/22	18/4/22	Create an application to design a visiting Card. The Visiting card should have a company logo at the top right corner. The company name should be displayed in Capital letters, aligned to the center. Information like the name of the employee, job title, phone number, address, email, fax and website address is to be displayed. Insert a horizontal line between the job title and the phone number	CO 2 CO 3 L3	Black Board/Execution
	B2	20/4/22	20/4/22			
4	B1	25/4/22	25/4/22	Develop an Android application using controls like Button, TextView, EditText for designing a calculator having basic functionality like Addition, Subtraction, Multiplication, and division.	CO 2 CO 3 L3	Black Board/Execution
	B2	27/4/22	27/4/22			
5	B1	2/5/22	2/5/22	Create a SIGN-Up activity with Username and Password. Validation of password should happen based on the following rules: <ul style="list-style-type: none"> • Password should contain uppercase and lowercase letters. • Password should contain letters and numbers. • Password should contain special characters. • Minimum length of the password (the default 	CO 2 CO 3 CO 4 L3	Black Board/Execution
	B2	4/5/22	4/5/22			

(Signature)

				value is 8). On successful SIGN UP proceed to the next Login activity. The user is given only two attempts and after that displays a toast message saying "Failed Login Attempts" and disable the SIGN IN button. Use Bundle to transfer information from one activity to another.		
6	B1	9/5/22	9/5/22	Develop an application to set an image as wallpaper. On click of a button, the wallpaper image should start to change randomly every 30 seconds.	CO 2 CO 3 CO 4 L3	Black Board/Execution
	B2	11/5/22	11/5/22			
7	B1	16/5/22	23/5/22	Write a program to create an activity with two buttons START and STOP. On pressing the START button, the activity must start the counter by displaying the numbers from One and the counter must keep on counting until the STOP button is pressed. Display the counter value in a TextView control.	CO 5 L3	Black Board/Execution
	B2	18/5/22	25/5/22			
8	B1	23/5/22	30/5/22	Create two files of XML and JSON type with values for City_Name, Latitude, Longitude, Temperature, and Humidity. Develop an application to create an activity with two buttons to parse the XML and JSON files which when clicked should display the data in their respective layouts side by side.	CO 5 L3	Black Board/Execution
	B2	25/5/22	1/6/22			
9	B1	30/5/22	6/6/22 10/6/22	Develop a simple application with one EditText so that the user can write some text in it. Create a button called "Convert Text to Speech" that converts the user input text into voice.	CO 5 L3	Black Board/Execution
	B2	1/6/22	6/6/22 10/6/22			
10	B1	13/6/22	13/6/22	Create an activity like a phone dialer with CALL and SAVE buttons. On pressing the CALL button, it must call the phone number and on pressing the SAVE button it must save the number to the phone contacts.	CO 5 L3	Black Board/Execution
	B2	15/6/22	15/6/22			
11	B1	27/6/22	27/6/22	Part B execution and demonstration by students		
	B2	4/7/22	4/7/22			
12	B1	4/7/22	4/7/22	LAB INTERNALS		
	B2	6/7/22	6/7/22			

F BCS
STAFF

HOD



APS College of Engineering

Somanahalli, Kanakapura Road, Bangalore-82
Department of Information Science and Engineering

Subject Name: INTERNET OF THINGS TECHNOLOGY

Subject Code	18CS81	IA Marks	40
Number of Lecture Hours/Week	03	Exam Marks	60
Total Number of Lecture Hours	40	Exam Hours	03
SEMESTER	VIII	CREDITS	03
Name of the Faculty	Pallavi H B	Academic Year	2021-22

Course Delivery Plan

Period /Hour	Planned Date	Execution Date	Topic / Session topic	CO & REVISED Bloom's Taxonomy
Module-1				
1	04/04/2022	04/04/2022	What is IoT, Genesis of IoT, IoT and Digitization	CO-1,L-1
2	04/04/2022	04/04/2022	IoT Impact	CO-1, L-2
3	05/04/2022	05/04/2022	Convergence of IT and IoT	CO-1, L- 2
4	05/04/2022	05/04/2022	IoT Challenges	CO-1,L-1
5	11/04/2022	11/04/2022	IoT Network Architecture and Design, Drivers Behind	CO-1, L-2
6	11/04/2022	11/04/2022	New Network Architectures	CO-1, L-2
7	12/04/2022	12/04/2022	Comparing IoT Architectures, A Simplified IoT Architecture,	CO-1,CO-2, L-2
8	12/04/2022	12/04/2022	The Core IoT Functional Stack, IoT Data Management and Compute Stack	CO-1, CO-4, L-2

1st Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 1)

Module-2				
09	18/04/2022	18/04/2022	Introduction	CO-2, L-2,L-3
10	18/04/2022	18/04/2022	Smart Objects	CO-2 ,L-3
11	19/04/2022	19/04/2022	The “Things” in IoT	CO-2, L-3

12	19/04/2022	19/04/22	Sensors	CO-2, L-3
13	25/04/2022	25/04/2022	Actuators	CO-2, L-3
14	25/04/2022	25/04/2022	Smart Objects	CO-2, L-2
15	26/04/2022	26/04/2022	Sensor Networks, Connecting Smart Objects	CO-2, L-2
16	26/04/2022	26/04/2022	Communications Criteria, IoT Access Technologies	CO-2, L-5

2nd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 2)

Module 3

17	02/05/2022	09/05/2022	IP as the IoT Network Layer,	CO-3, L-1,L-2
18	02/05/2022	09/05/2022	IP as the IoT Network Layer	CO-3, L-2
19	09/05/2022	10/05/2022	The Business Case for IP	CO-3. L-2
20	09/05/2022	10/05/2022	The need for Optimization	CO-3. L-3
21	10/05/2022	23/5/22	Optimizing IP for IoT	CO-3, L-2
22	10/05/2022	23/5/22	Profiles and Compliances	CO-3,L-2
23	16/05/2022	24/5/22	Application Protocols for IoT, The Transport Layer	CO-3, L-2
24	16/05/2022	24/5/22	IoT Application, Transport Methods	CO-3,L-2

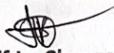
3rd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 3)

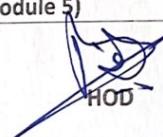
Module-4

25	17/05/2022	30/5/22	Data and Analytics for IoT	CO-4, L-2
26	17/05/2022	30/5/22	An Introduction to Data Analytics for IoT	CO-4, L-2
27	23/05/2022	31/5/22	Machine Learning	CO-4, L-3
28	23/05/2022	31/5/22	Big Data Analytics Tools and Technology	CO-4, L-3
29	24/05/2022	06/6/22	Edge Streaming Analytics, Network Analytics	CO-4, L-3
30	24/05/2022	06/6/22	Securing IoT, A Brief History of OT Security	CO-4, L-2
31	30/05/2022	13/6/22	Common Challenges in OT Security, How IT and OT Security Practices and Systems Vary	CO-4, L-2

32	30/05/2022	13 6 22	Formal Risk Analysis Structures: OCTAVE and FAIR, The Phased Application of Security in an Operational Environment	CO-4,L-3
4th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 4)				
Module-5				
33	31/05/2022	14 6 22	IoT Physical Devices and Endpoints - Arduino UNO: Introduction to Arduino, Arduino UNO, Installing the Software, Fundamentals of Arduino Programming.	CO-5, L-1,L-2
34	31/05/2022	14 6 22	IoT Physical Devices and Endpoints - RaspberryPi: Introduction to RaspberryPi	CO-5, L-2
35	13/06/2022	27 6 22	About the RaspberryPi Board: Hardware Layout, Operating Systems on RaspberryPi,	CO-5, L-2
36	13/06/2022	27 6 22	Configuring RaspberryPi,	CO-5, L-3
37	14/06/2022	28 6 22	Programming RaspberryPi with Python,	CO-5, L-3
38	14/06/2022	28 6 22	DS18B20 Temperature Sensor, Connecting Raspberry Pi via SSH	CO-5, L-3
39	27/06/2022 27/06/2022	28 6 22	Accessing Temperature from DS18B20 sensors, Remote access to RaspberryPi, Smart and Connected Cities	CO-5, L-2
40	28/06/2022 28/06/2022	28 6 22	An IoT Strategy for Smarter Cities, Smart City IoT Architecture, Smart City Security Architecture , Smart City Use-Case Examples	CO-5, L-2

5th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 5)


Staff In-Charge


HOD



APS College of Engineering

Somanahalli, Kanakapura Road, Bangalore-82
Department of Information Science and Engineering

Subject Name: Storage Area Network

Subject Code	18CS822	IA Marks	40
Number of Lecture Hours/Week	03	Exam Marks	60
Total Number of Lecture Hours	40	Exam Hours	03
SEMESTER	VIII	CREDITS	03
Name of the Faculty	Shruthi B S	Academic Year	2021-22

Lesson Delivery Plan

Period /Hour	Planned Date	Execution Date	Topic / Session topic	CO & REVISED Bloom's Taxonomy
Module-1				
1	4/4/2022	4/4/22	Storage System: Introduction to Information Storage: Evolution of Storage Architecture	CO1 L1
2	4/4/2022	4/4/22	Data Center Infrastructure , Virtualization and Cloud Computing	CO1 L2
3	5/4/2022	5/4/22	Data Center Environment: Application DBMS, Host(Compute)	CO1 L1,L3
4	5/4/2022	5/4/22	Connectivity, Storage, Disk Drive Components,	CO1 L1,L2
5	11/4/2022	11/4/22	Disk Drive Performance	CO1 L1,L2
6	11/4/2022	11/4/22	Host Access to Data,	CO1 L1,L2
7	12/4/2022	12/4/22	Direct Attached Storage	CO1 L1
8	12/4/2022	18/4/22	Storage Design Based on Application	CO1 L1

1st Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 1)

Module-2

9	18/4/2022	18/4/22	Data Protection: RAID: RAID Implementation Methods	CO2 L1,L2
10	18/4/2022	19/4/22	RAID Techniques, RAID Levels	CO2 L2,L3
11	19/4/2022	25/4/22	RAID Impact on Disk Performance, RAID comparison	CO2 L1,L2

12	19/4/2022	26/4/22	Intelligent Storage Systems: Components of Intelligent Storage System,	CO2 L1,L2
13	25/4/2022	27/4/22	Types of Intelligent Storage System	CO2 L1,L2,L3
14	25/4/2022	9/5/22	Fiber Channel Storage Area Network: Fiber Channel	CO2 L1,L2
15	26/4/2022	9/5/22	The SAN and its evolution	CO2 L1
16	26/4/2022	10/5/22	Components of FC SAN	CO2 L1,L2

2nd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 2)

Module-3

17	2/5/2022	10/5/22	IP SAN and FCoE:	CO3 L1, L2
18	2/5/2022	17/5/22	iSCSI, FCIP, FCoE	CO3 L1, L2
19	9/5/2022	23/5/22	Network Attached Storage: General Purpose Servers VS NAS Devices	CO3 L1, L2
20	9/5/2022	23/5/22	Benefits of NAS	CO3 L1, L2
21	10/5/2022	24/5/22	File System and Network File Sharing	CO3 L1, L2
22	10/5/2022	24/5/22	Components of NAS, NAS I/O Operation	CO3 L1, L2, L3
23	16/5/2022	30/5/22	NAS File-Sharing Protocols,	CO3 L1, L2, L3
24	16/5/2022	30/5/22	Factors Affecting NAS Performance	CO3 L1, L2, L3

3rd Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 3)

Module-4

25	17/5/2022	31/5/22	Introduction to Business continuity: Information availability	CO4 L1,L2
26	17/5/2022	31/5/22	BC Terminology, BC Planning Life Cycles, Failure analysis	CO4 L1,L2,L3
27	23/5/2022	1/6/22	Business Impact Analysis, BC Technology Solutions	CO4 L1,L2
28	23/5/2022	6/6/22	Backup and Archive: Backup Purpose, Backup Consideration	CO4 L1, L2

29	24/5/2022	6/6/22	Back up Granularity, Recovery Considerations	CO4 L1, L2, L3
30.	24/5/2022	7/6/22	Back up methods, Backup Architecture, Backup and Restore Operations	CO4 L1, L2
31	30/5/2022	7/6/22	Backup Topologies	CO4 L1, L2
32	30/5/2022	8/6/22	Backup in NAS Environments	CO4 L1, L2

4th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 3)

Module-5

33	31/5/2022	8/6/22	Local Replication: Replication Terminology, Uses of Local Replicas, Replica Consistency Local Replication Technologies, Tracking Changes to source and Replica	CO5 L1, L2
34	31/5/2022	9/6/22	Restore and Restart considerations	CO5 L2, L3
35	13/6/2022	14/6/22	Creating Multiple Replicas	CO5 L1, L2
36	13/6/2022	14/6/22	Remote Replication: Modes of Remote Replication	CO5 L1, L2
37	14/6/2022	27/6/22	Remote Replication Technologies	CO5 L1, L2, L3
38	14/6/2022	27/6/22	Securing and managing storage infrastructure: information security framework	CO5 L1, L2
39	27/6/2022	28/6/22	Risk triad, storage security domains	CO5 L1, L2
40	27/6/2022	28/6/22	Security implementation in storage networking	CO5 L1, L2

5th Assignment Questions: Q.no 1 to Q.no 5 (Refer Question Bank of Module 5)

Staff In-Charge

BS

HOD