Bharatiya Vidya Bhavan's
Sardar Patel Institute of Technology
(Autonomous Institute Affiliated to University of Mumbai)
[Knowledge is Nectar]
[Department of Computer Science and Engineering (Master of Computer Applications)]

MCA PROGRAM AT SPIT: 2024 ITERATION
Salient Features

- 84 Credits Education Model

- A strong program core of 6 courses, 3 baskets of Thread Electives, 8 Program Electives, 8 skilled-based courses to ensure breadth and depth in a chosen domain of studies.

- Credit-based 6-Month Industry Internship.

- Aggressive model of "Learning by Doing".

- HSSE courses like Finance, Law, Psychology, and Economics are offered to have a multidisciplinary approach in learning.

- Provision to earn credits against HSSE courses, Open Electives through MOOC Courses.

- Provision to earn credits through bridge courses for Non-Computer / IT students.

This curriculum aims at the development of an all-rounded personality. It follows a holistic approach of education, ensures mathematics foundation and program core, develops expertise in domain verticals through sequel of electives and HSSE courses.

Nomenclature of the Courses

BSC	Basic Science Course
SBC	Skilled Based Course
PC	Program Core
TE	Thread Elective
PE	Program Elective
MLC	Mandatory Learning Course
OE	Open Elective
HSSE	Humanities and Social Science Elective

Abbreviations

L	Lecture Hour	O	Other Work (Assignments, Self-Study, etc)
T	Tutorial Hour	E	Total Engagement in Hours for the Learners
P	Laboratory Hour	C	Credit Assigned

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CURRICULUM STRUCTURE

No	Type	Code	Course	L	T	P	O	E	C
Sem I (For Computer/IT Graduates)										
1	BSC	MA501	Linear Algebra	2	1	0	5	8	3
2	PC	MC501	Data Structures	3	0	2	4	9	4
3	PC	MC502	Database Management System	3	0	2	5	10	4
4	PC	MC503	Software Engineering	3	0	2	5	10	4
5	SBC	MC504	Web Technology Lab	0	1	4	4	9	3
6	SBC	AS501	Writing Skills	1	0	2	2	5	2
7	HSSE	HSEX1	HSS-I	2	0	0	3	5	2
			TOTAL	**14**	**2**	**12**	**27**	**56**	**22**

No	Type	Code	Course	L	T	P	O	E	C
Sem I (For Non-Computer/IT Graduates)										
1	BSC	MA501	Linear Algebra	2	1	0	5	8	3
2	BSC*	MA502	Discrete Mathematics	2	0	0	3	5	2
3	PC	MC501	Data Structures	3	0	2	4	9	4
4	PC	MC502	Database Management System	3	0	2	5	10	4
5	PC	MC503	Software Engineering	3	0	2	5	10	4
6	SBC	MC504	Web Technology Lab	0	1	4	4	9	3
7	PC*	MC505	Problem Solving using OOPs Lab	2	0	2	2	6	3
8	SBC	AS501	Writing Skills	1	0	2	2	5	2
			TOTAL	**16**	**2**	**14**	**30**	**62**	**25**

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No	Type	Code	Course	L	T	P	O	E	C
**Sem II (For Computer/IT Graduates)**
1	BSC	MA503	Probability and Statistics	3	0	0	4	7	3
2	PC	MC506	Advanced Java Programming	2	0	4	3	9	4
3	PC	MC507	Design and Analysis of Algorithms	3	0	2	3	7	4
4	SBC	MC508	Process Automation	0	0	4	4	8	2
5	PE	MC5XX-I	Thread Elective-I /Program Elective-I	3	0	2	4	9	4
6	SBC	MC509	Mobile Programming Lab	0	0	4	4	8	2
7	SBC	AS502	Communication & Presentation Skills	1	0	2	2	5	2
8	HSSE	HSEX2	HSS-II	2	0	0	3	5	2
			TOTAL	**14**	**0**	**18**	**27**	**58**	**23**

No	Type	Code	Course	L	T	P	O	E	C
**Sem II (For Non Computer/IT Graduates)**
1	BSC	MA503	Probability and Statistics	3	0	0	4	7	3
2	PC*	MC510	Operating System	3	0	0	4	7	3
3	PC	MC506	Advanced Java Programming	2	0	4	3	9	4
4	PC	MC507	Design and Analysis of Algorithms	3	0	2	3	7	4
5	SBC	MC508	Process Automation	0	0	4	4	8	2
6	PE	MC5XX-I	Thread Elective-I /Program Elective-I	3	0	2	4	9	4
7	SBC	MC509	Mobile Programming Lab	0	0	4	4	8	2
8	SBC	AS502	Communication & Presentation Skills	1	0	2	2	5	2
			TOTAL	**15**	**0**	**18**	**28**	**60**	**24**

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SUMMER TERM (For Computer/IT Graduates)					
No	**Type**	**Code**	**Course**	**E**	**C**
1	MLC	AS601	Constitution of India	5	NC
2	SBC	AS602	Project-I (Project to address social problem)	8	4
			TOTAL	**13**	**4**

SUMMER TERM (For Non Computer/IT Graduates)					
No	**Type**	**Code**	**Course**	**E**	**C**
1	MLC	AS601	Constitution of India	5	NC
2	HSS	OEHXX	Open Elective from Humanities	10	NC
			TOTAL	**15**	**0**

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No	Type	Code	Course	L	T	P	O	E	C
**Sem III (For Computer/IT Graduates)**										
1	OE*	OEXXX	Open Elective-I	3	0	0	5	8	3
2	PE	MC5XX-II	Thread Elective-II /Program Elective-II	3	0	2	4	9	4
3	PC	MC511	User Interaction Design	3	0	2	4	9	4
4	SBC	MC601	Project-II (Research Project)	0	1	8	8	17	5
5	HSSE	HSEX3	HSS-III	2	0	0	3	5	2
6	SBC	AS603	Selling and Negotiation Skills	2	0	0	3	5	2
			TOTAL	13	1	12	27	53	20

No	Type	Code	Course	L	T	P	O	E	C
**Sem III (For Non-Computer/IT Graduates)**										
1	PC*	MC602	Computer Networks	2	0	0	3	5	2
2	OE*	OEXXX	Open Elective-I	3	0	0	5	8	3
3	PE	MC5XX-II	Thread Elective-II /Program Elective-II	3	0	2	4	9	4
4	PC	MC511	User Interaction Design	3	0	2	4	9	4
5	SBC	MC601	Project-II (Research Project)	0	1	8	8	17	5
6	SBC	AS603	Selling and Negotiation Skills	2	0	0	3	5	2
			TOTAL	13	1	12	27	53	20

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No	Type	Code	Course	L	T	P	O	E	C
before...			**Sem IV**						
1	OE*	OEXXX	Open Elective-II	3	0	0	5	8	3
2	SBC	MC610	6-Month Industry Internship/Research internship at SPIT or Other Institute / Internship with Startup at TBI	0	0	0	0	45	12
			TOTAL	**3**	**0**	**0**	**5**	**53**	**15**

* indicates MOOC Courses

THREAD ELECTIVES

Sr. No.	Thread	Thread Elective I	Thread Elective II
1	**Data Science**	Machine Learning (MC512)	Deep Learning (MC513)
2	**Design**	Design Thinking(MC514)	Total Experience Design (MC515)
3	**Security**	Network and Information Security(MC516)	Cyber Security and Forensics (MC517)
4	Any new thread approved by BoS		

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PROGRAM ELECTIVES / MOOC

MC518	DevOps
MC519	Explainable Artificial Intelligence
MC520	Cloud Computing
MC521	Soft Computing
MC522	Block Chain Technology
MC523	Data Warehousing and Mining
MC524	Ethical Hacking
MC525	Software Testing and Quality Assurance
	Any other Course approved by the Dean Academics and Principal

OPEN ELECTIVES / MOOC

OEHXX	Management Principles
OEHXX	IPR and Patents
OEHXX	Law for Engineers
OEHXX	Organizational Behavior
OEHXX	Leadership, Innovation and Entrepreneurship
OEHXX	Project Management
OEHXX	Finance for Engineers
OEHXX	Research Methodology
OEHXX	Any course approved by Dean Academics and Principal

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Humanities and Social Science Electives

National Education Policy 2019 has aptly spelled out the necessity of Humanities in the Professional Education. It quotes, "A holistic and liberal education as described so beautifully in India's past is indeed what is needed for the education of India in the future to truly lead the country into the 21st century and the fourth industrial revolution. Even engineering schools such as the IITs must move towards a more liberal education integrating arts and humanities". Every program at SPIT has three baskets of humanities. Learners are encouraged to take diversified courses in the field of languages, law, history, economics, management, finance etc.

Special Tracks

	HSSE-I		**HSSE-II**		**HSSE-III**
HSE11	Law for Engineers-I	HSE12	Law for Engineers-II	HSE13	Law for Engineers-III
HSE21	Finance for Engineers-I	HSE22	Finance for Engineers-II	HSE23	Finance for Engineers-III
HSE31	Psychology-I	HSE32	Psychology-II	HSE33	Psychology-III
HSE41	Economics-I	HSE42	Economics-II	HSE43	Economics-III
HSE51	Ancient India	HSE52	Medieval India	HSE53	Modern India
HSE6X1	Language X-I	HSE6X2	Language X-II	HSE6X3	Language X-III

Common Pool for HSSE-I, II and III (May be studied on MOOC's)

HSEC01	Film Appreciation	HSEC02	Universal Values
HSEC03	Game Theory	HSEC04	Human Behavior
HSEC05	Ecology and Society	HSEC06	Energy Economics and Policies
HSEC07	Drama Appreciation	HSEC08	Political Ideologies
HSEC09	Justice	HSECXX	Any other Approved Course
HSEXX	Any course from HSSE-I		