

**NORTH MAHARASHTRA UNIVERSITY,**

**JALGAON (M.S.)**

Bachelor of Engineering

(Computer Engineering)

Faculty of Science and Technology



**'A' Grade**  
**NAAC Re-Accredited**  
**(3<sup>rd</sup> Cycle)**

**REVISED SYLLABUS STRUCTURE**

**W.E.F. 2017 – 18**

## Subject Group Code and Subject Groups

Sr. No.	GROUP	Category	Breakup of Credits
<b>1</b>	<b>A</b>	Humanities and Social Sciences including Management Courses (HSMC)	<b>10</b>
<b>2</b>	<b>B</b>	Basic Science Courses (BSC)	<b>30</b>
<b>3</b>	<b>C</b>	Engineering Science Courses including workshop, drawing, basics of electrical/mechanical/computer etc. (ESC)	<b>33</b>
<b>4</b>	<b>D</b>	Professional Core Courses (PCC)	<b>53</b>
<b>5</b>	<b>E</b>	Professional Elective Courses relevant to chosen specialization/branch (PEC)	<b>18</b>
<b>6</b>	<b>F</b>	Open subjects – Electives from other technical and /or emerging subjects (OEC)	<b>12</b>
<b>7</b>	<b>G</b>	Project work, seminar and internship in industry or appropriate work place/ academic and research institutions in India/abroad (PROJ)	<b>15</b>
<b>8</b>	<b>H</b>	Mandatory Courses (MC) [Environmental Sciences, Induction program, Indian Constitution, Essence of Indian Traditional Knowledge]	
<b>Total</b>			<b>171</b>

**Syllabus Structure for First Year Engineering (Semester – I) (w.e.f. 2017 – 18)**

Name of the Course	Group	Teaching Scheme				Evaluation Scheme					Credits
		Theory Hrs / week	Tutorial Hrs / week	Practical Hrs / week	Total	Theory		Practical		Total	
						ISE	ESE	ICA	ESE		
Applied Physics – I	B	3	-	-	3	40	60	-	-	100	3
Applied Chemistry – I	B	3	0	-	3	40	60	-	-	100	3
Applied Mathematics – I	B	3	1	-	4	40	60	-	-	100	4
Communicative English	A	3	-	-	3	40	60	-	-	100	3
Introduction to Civil Engineering and Mechanics	C	3	-	-	3	40	60	-	-	100	3
Introduction to Electrical Engineering	C	3	-	-	3	40	60	-	-	100	3
Workshop Practice – I	C	-	-	2	2	-	-	25	-	25	1
Applied Science Lab - I	B	-	-	*2	2	-	-	25	-	25	1
Introduction to Civil Engineering and Mechanics Lab	C	-	-	2	2	-	-	25	25(oral)	50	1
Introduction to Electrical Engineering Lab	C	-	-	2	2	-	-	25	25(oral)	50	1
Communicative English Lab	A	-	-	2	2	-	-	25	25(Oral)	50	1
		<b>18</b>	<b>1</b>	<b>10</b>	<b>29</b>	<b>240</b>	<b>360</b>	<b>125</b>	<b>75</b>	<b>800</b>	<b>24</b>

**ISE: Internal Sessional Examination**

**ESE: End Semester Examination**

**ICA: Internal Continuous Assessment**

**Syllabus Structure for First Year Engineering (Semester – II) (w.e.f. 2017 – 18)**

Name of the Course	Group	Teaching Scheme				Evaluation Scheme					Credits
		Theory Hrs / week	Tutorial Hrs / week	Practical Hrs / week	Total	Theory		Practical		Total	
						ISE	ESE	ICA	ESE		
Applied Physics – II	B	3	-	-	3	40	60	-	-	100	3
Applied Chemistry –II	B	3	0	-	3	40	60	-	-	100	3
Applied Mathematics – II	B	3	1	-	4	40	60	-	-	100	4
Introduction to ‘C’ Programming	C	3	-	-	3	40	60	-	-	100	3
Introduction to Mechanical Engineering and Engineering Drawing	C	3	-	-	3	40	60	-	-	100	3
Introduction to Electronics Engineering	C	3	-	-	3	40	60	-	-	100	3
Workshop Practice – II	C	-	-	2	2	-	-	25	-	25	1
Applied Science Lab - II	B	-	-	*2	2	-	-	25	-	25	1
Introduction to Mechanical Engineering and Engineering Drawing Lab	C	-	-	2	2	-	-	25	25(OR)	50	1
Introduction to ‘C’ Programming Lab	C	--	-	2	2	-	-	25	25(OR)	50	1
Introduction to Electronics Engineering Lab	C	-	-	2	2	-	-	25	25(OR)	50	1
		<b>18</b>	<b>2</b>	<b>10</b>	<b>29</b>	<b>240</b>	<b>360</b>	<b>125</b>	<b>75</b>	<b>800</b>	<b>24</b>

**ISE: Internal Sessional Examination    ESE: End Semester Examination    ICA: Internal Continuous Assessment    \* Alternate Week**

**Syllabus Structure for Second Year Engineering (Semester – III) (Computer, IT) (w.e.f. 2018 – 19)**

Name of the Course	Group	Teaching Scheme				Evaluation Scheme					Credits
		Theory Hrs / week	Tutoria l Hrs / week	Practica l Hrs / week	Total	Theory		Practical		Total	
						ISE	ESE	ICA	ESE		
Mathematics – III	B	3	1	-	4	40	60	-	-	100	4
Signals and Systems	C	3	-	-	3	40	60	-	-	100	3
Analog Electronic Circuits	C	3	-	-	3	40	60	-	-	100	3
Discrete Mathematics	D	3	-	-	3	40	60	-	-	100	3
Organizational Behavior	A	3	-	-	3	40	60	-	-	100	3
Analog Electronic Circuits Lab	C	-	-	2	2	-	-	25	25 (PR)	50	1
Discrete Mathematics Lab	D	-	-	2	2			25	25 (PR)	50	1
Object Oriented Programming Lab	D	1	-	2	3	-	-	25	25 (PR)	50	2
		<b>16</b>	<b>1</b>	<b>6</b>	<b>23</b>	<b>200</b>	<b>300</b>	<b>75</b>	<b>75</b>	<b>650</b>	<b>20</b>

**ISE: Internal Sessional Examination**

**ESE: End Semester Examination**

**ICA: Internal Continuous Assessment**

**Syllabus Structure for Second Year Engineering (Semester – IV) (Computer, IT) (w.e.f. 2018 – 19)**

Name of the Course	Group	Teaching Scheme				Evaluation Scheme					Credits
		Theory Hrs / week	Tutorial Hrs / week	Practical Hrs / week	Total	Theory		Practical		Total	
						ISE	ESE	ICA	ESE		
Biology	B	3	1	-	4	40	60	-	-	100	4
Digital Electronics	C	3	-	-	3	40	60	-	-	100	3
Data structure & Algorithms	D	3	-	-	3	40	60	-	-	100	3
Computer Organization & Architecture	D	3	-	-	3	40	60	-	-	100	3
Finance & Accounting	A	3	-	-	3	40	60	-	-	100	3
Digital Electronics Lab	C	-	-	2	2	-	-	-	-	-	1
Data structure & Algorithms Lab	D	-	-	2	2	-	-	25	25 (PR)	50	1
Computer Organization & Architecture Lab	D	-	-	2	2	-	-	25	25 (PR)	50	1
IT Workshop	D	1	-	2	3	-	-	25	25 (PR)	50	2
Environmental Studies*	H	-	-	-	-	-	80	20	-	-	-
		<b>16</b>	<b>1</b>	<b>8</b>	<b>25</b>	<b>200</b>	<b>300</b>	<b>75</b>	<b>75</b>	<b>650</b>	<b>21</b>

**ISE: Internal Sessional Examination**

**ESE: End Semester Examination**

**ICA: Internal Continuous Assessment**

\* Only for Direct S.E. Admitted Students

**Syllabus Structure for Third Year Engineering (Semester – V) (Computer) (w.e.f. 2019 – 20)**

Name of the Course	Group	Teaching Scheme				Evaluation Scheme					Credits
		Theory Hrs / week	Tutorial Hrs / week	Practical Hrs / week	Total	Theory		Practical		Total	
						ISE	ESE	ICA	ESE		
Database Management Systems	D	3	-	-	3	40	60	-	-	100	3
Design and Analysis of Algorithms	D	3	-	-	3	40	60	-	-	100	3
Formal Language, Automats and Compiler	D	3	-	-	3	40	60	-	-	100	3
Professional Elective Course – I	E	3	-	-	3	40	60	-	-	100	3
Open Elective Course – I	F	3	-	-	3	40	60	-	-	100	3
Database Management Systems Lab	D	-	-	2	2	-	-	25	25 (PR)	50	1
Design and Analysis of Algorithms Lab	D	-	-	2	2	-	-	25	25 (PR)	50	1
Web Programming Language Lab	D	-	-	2	2	-	-	25	25 (PR)	50	1
Minor Project (Stage – I)	G	-	-	6	6	-	-	50	-	50	3
Constitution of India	H	-	-	-	-	-	-	-	-	-	-
		<b>15</b>	<b>0</b>	<b>12</b>	<b>27</b>	<b>200</b>	<b>300</b>	<b>125</b>	<b>75</b>	<b>700</b>	<b>21</b>

**ISE: Internal Sessional Examination**

**ESE: End Semester Examination**

**ICA: Internal Continuous Assessment**

Professional Elective Course – I		Open Elective Course – I	
1		1	
2		2	
3		3	
4		4	

**Syllabus Structure for Third Year Engineering (Semester – VI) (Computer) (w.e.f. 2019 – 20)**

Name of the Course	Group	Teaching Scheme				Evaluation Scheme					Credits
		Theory Hrs / week	Tutorial Hrs / week	Practical Hrs / week	Total	Theory		Practical		Total	
						ISE	ESE	ICA	ESE		
Operating Systems	D	3	-	-	3	40	60	-	-	100	3
Computer Networks	D	3	-	-	3	40	60	-	-	100	3
Software Engineering	D	3	-	-	3	40	60	-	-	100	3
Professional Elective Course – II	E	3	-	-	3	40	60	-	-	100	3
Open Elective Course – II	F	3	-	-	3	40	60	-	-	100	3
Operating Systems Lab	D	-	-	2	2	-	-	25	25 (PR)	50	1
Computer Networks	D	-	-	2	2	-	-	25	25 (PR)	50	1
Software Engineering Lab	D	-	-	2	2	-	-	25	-	25	1
Minor Project	G	-	-	6	6	-	-	50	25 (OR)	75	3
		<b>15</b>	<b>0</b>	<b>12</b>	<b>27</b>	<b>200</b>	<b>300</b>	<b>125</b>	<b>75</b>	<b>700</b>	<b>21</b>

**ISE: Internal Sessional Examination**

**ESE: End Semester Examination**

**ICA: Internal Continuous Assessment**

Professional Elective Course – II		Open Elective Course – II	
1		1	
2		2	
3		3	
4		4	

Note: Every student should undergo Summer Internship during Summer Vacation of at least THREE weeks duration. Credits for Summer Internship shall be included in Project (Stage – I) of Semester – VII.



**Syllabus Structure for Fourth Year Engineering (Semester – VII) (Computer) (w.e.f. 2020 – 21)**

Name of the Course	Group	Teaching Scheme				Evaluation Scheme					Credits
		Theory Hrs / week	Tutorial Hrs / week	Practical Hrs / week	Total	Theory		Practical		Total	
						ISE	ESE	ICA	ESE		
Complier Design	D	3	-	-	3	40	60	-	-	100	3
Professional Elective Course – III	E	3	-	-	3	40	60	-	-	100	3
Professional Elective Course – IV	E	3	-	-	3	40	60	-	-	100	3
Open Elective Course – III	F	3	-	-	3	40	60	-	-	100	3
Complier Design Lab	D	-	-	2	2	-	-	25	25 (PR)	50	1
Advanced Technology Lab - I	D	1	-	2	3	-	-	25	25 (PR)	50	2
Project (Stage – I)	G	-	-	12	12	-	-	50	50 (OR)	100	6
Essence of Indian Traditional Knowledge	H	-	-	-	-	-	-	-	-	-	-
		<b>13</b>		<b>16</b>	<b>29</b>	<b>160</b>	<b>240</b>	<b>100</b>	<b>100</b>	<b>600</b>	<b>21</b>

**ISE: Internal Sessional Examination**

**ESE: End Semester Examination**

**ICA: Internal Continuous Assessment**

Professional Elective Course – III		Professional Elective Course – IV		Open Elective Course – III	
1		1		1	
2		2		2	
3		3		3	
4		4		4	

**Syllabus Structure for Fourth Year Engineering (Semester – VIII) (Computer) (w.e.f. 2020 – 21)**

Name of the Course	Group	Teaching Scheme				Evaluation Scheme					Credits
		Theory Hrs / week	Tutorial Hrs / week	Practical Hrs / week	Total	Theory		Practical		Total	
						ISE	ESE	ICA	ESE		
Cryptography and Network Security	D	3	-	-	3	40	60	-	-	100	3
Professional Elective Course – V	E	3	-	-	3	40	60	-	-	100	3
Professional Elective Course – VI	E	3	-	-	3	40	60	-	-	100	3
Open Elective Course – IV	F	3	-	-	3	40	60	-	-	100	3
Cryptography and Network Security Lab	D	-	-	2	2	-	-	25	25 (PR)	50	1
Advanced Technology Lab - II	D	2	-	2	4	-	-	25	25 (PR)	50	3
Project	G		-	6	6	-	-	50	50 (OR)	100	3
		<b>14</b>	<b>0</b>	<b>10</b>	<b>24</b>	<b>160</b>	<b>240</b>	<b>100</b>	<b>100</b>	<b>600</b>	<b>19</b>

**ISE: Internal Sessional Examination**

**ESE: End Semester Examination**

**ICA: Internal Continuous Assessment**

Professional Elective Course – V		Professional Elective Course – VI		Open Elective Course – IV	
1		1		1	
2		2		2	
3		3		3	
4		4		4	