ZAKIR HUSAIN COLLEGE OF ENGINEERING & TECHNOLOGY

LIST OF REGISTERED COURSES (Updated on 22 November, 2023)

B.Tech./B.Arch, Odd semester, 2023-24

ALL BRANCHES

S.No.	Course No.	Course Title	Categ.	Credit.	Mode a	Mode b	Mode c	Total
1	ACA3110	Engineering Materials	ESA	4	17	0	0	17
2	ACO3080	Atmospheric Chemistry	OE	4	60	0	0	60
3	ACS1110	Applied Chemistry	BS	4	265	12	6	283
4	ACS1910	Applied Chemistry Lab	BS	1.5	265	4	2	271
5	ACS2010	Engineering Chemistry	BS	3	8	1	1	10
6	AEA2420	Experimental Methods & Analysis	ESA	3	24	0	0	24
7	AEC2110	Mechanics of Solids	DC	4	24	0	0	24
8	AEC2320	Fluid Mechanics	DC	4	24	0	0	24
9	AEC2410	Manufacturing Technology	DC	4	24	0	0	24
10	AEC2750	Lean Methods for Automobile Engineers	DC	3	24	0	0	24
11	AEC2910	Machine Drawing Lab	DC	2	24	0	0	24
12	AEC2930	Manufacturing Technology Lab-I	DC	2	24	0	0	24
13	AEC2950	Fluids Mechanics Lab	DC	2	24	0	0	24
14	AIC2020	Introduction to Artificial Intelligence	DC	4	28	0	0	28
15	AIC2040	Principles of Machine Learning	DC	4	28	0	1	29
16	AIC2060	Data Structure and Algorithm	DC	4	28	1	0	29
17	AIC2070	Digital Logic and System Design	DC	4	28	3	0	31
18	AIC2910	Data Structure Lab	DC	2	28	0	0	28
19	AIC3060	Artificial Neural Network	DC	4	30	0	0	30
20	AIC3070	AI System Design	DC	4	30	0	0	30
21	AIC3090	Microprocessor Theory & Applications	DC	4	30	0	0	30
22	AIC3100	Operating Systems	DC	4	30	0	0	30
23	AIC3930	Algorithms & Operating Systems Lab	DC	2	30	0	0	30
24	AIC3940	Machine Learning Lab	DC	2	30	0	0	30
25	AMO3510	Numerical Techniques	OE	4	49	1	0	50
26	AMS1110	Applied Mathematics-I	BS	4	555	39	4	598
27	AMS2110	Mathematics-III	BS	3	64	6	4	74
28	AMS2230	Higher Mathematics	BS	4	72	3	4	79

S.No.	Course No.	Course Title	Categ.	Credit.	Mode a	Mode b	Mode c	Total
29	AMS2310	Higher Mathematics	BS	4	82	12	1	95
30	AMS2410	Higher Mathematics	BS	4	34	7	2	43
31	AMS2430	Advanced Engineering Mathematics	BS	4	8	2	1	11
32	AMS2510	Higher Mathematics - I	BS	4	61	5	1	67
33	AMS2520	Higher Mathematics - II	BS	4	62	8	3	73
34	AMS2610	Higher Mathematics	BS	4	89	4	0	93
35	APO3090	Nano-physics & Nano-technology-I	OE	4	23	0	0	23
36	APS1110	Applied Physics	BS	4	267	24	6	297
37	APS1910	Applied Physics Lab	BS	1.5	267	10	3	280
38	APS2050	Electrical Engineering Materials	BS	3	72	3	0	75
39	ARC1010	Principles and Philosophy of Architecture	DC	4	24	0	0	24
40	ARC1310	Architectural Drawing - I	DC	5	24	0	0	24
41	ARC1610	Basic Design and Visual Appreciation	DC	7	24	0	0	24
42	ARC2030	Climate & Design	DC	4	19	0	1	20
43	ARC2050	Building Services-I (Water Supply and Sanitation)	DC	3	19	0	0	19
44	ARC2070	Ancient Architecture (Indian and Far East)	DC	3	19	1	0	20
45	ARC2330	Construction and Materials - II	DC	5	19	1	0	20
46	ARC2630	Architecture Design - II	DC	7	19	1	0	20
47	ARC2910	Model Making & Photography	DC	2	19	2	0	21
48	ARC2930	Computer Application in Architecture-I	DC	2	19	1	0	20
49	ARC3090	Building Bye Laws & Regulations	DC	3	20	2	1	23
50	ARC3110	Islamic Architecture	DC	3	20	2	0	22
51	ARC3130	Specification Estimating & Costing	DC	4	20	3	1	24
52	ARC3150	Building Services-III (Mechanical)	DC	3	20	2	1	23
53	ARC3650	Architectural Design - IV	DC	7	20	2	0	22
54	ARC3660	Architectural Design - V	DC	7	1	0	0	1
55	ARC3950	Building Study	DC	2	20	2	0	22
56	ARC4170	Modern & Contemporary Architecture	DC	3	19	0	0	19

S.No.	Course No.	Course Title	Categ.	Credit.	Mode a	Mode b	Mode c	Total
57	ARC4430	Construction & Materials - V	DC	5	19	0	0	19
58	ARC4450	Landscape Design	DC	4	19	0	0	19
59	ARC4670	Architectural Design - VI	DC	7	19	0	0	19
60	ARC4810	Professional Training - I	DC	2	19	0	0	19
61	ARC5190	Professional Practice, Valuation and Arbitration	DC	4	22	0	0	22
62	ARC5300	Design Thesis	DC	15	22	0	0	22
63	ARE5230	Housing & Community Planning	DE	4	22	0	0	22
64	CEA1110	Environmental Studies	ESA	3	0	2	0	2
65	CEA1120	Strength of Materials	ESA	3	24	34	3	61
66	CEA2140	Engineering Geology	ESA	4	64	1	0	65
67	CEA2930	Engineering Geology Lab & camp	ESA	2	64	3	0	67
68	CEA3110	Structural Design - I	ESA	4	20	4	1	25
69	CEC2130	Fluid Mechanics	DC	4	64	10	4	78
70	CEC2150	Quantity Survey	DC	4	64	9	1	74
71	CEC2160	Civil Engineering Materials and Construction Practice	DC	4	64	11	2	77
72	CEC2910	Civil Engineering Material Lab	DC	2	64	2	0	66
73	CEC2920	Fluid Mechanics Lab	DC	2	64	2	0	66
74	CEC3110	Design of Concrete Structures-I	DC	4	61	3	0	64
75	CEC3120	Soil Mechanics	DC	4	61	2	1	64
76	CEC3130	Environmental Engineering II	DC	4	61	2	0	63
77	CEC3140	Engineering Hydraulics-I	DC	4	61	1	0	62
78	CEC3150	Structural Analysis-I	DC	4	61	2	0	63
79	CEC3910	Soil Mechanics Lab	DC	2	61	1	0	62
80	CEC3920	Environmental Engineering Lab	DC	2	61	0	0	61
81	CEC3930	Hydraulics Lab	DC	2	61	0	0	61
82	CEC3940	Structures Lab	DC	2	61	1	0	62
83	CEC4120	Foundation Engineering	DC	4	57	0	0	57
84	CEC4130	Irrigation Engineering	DC	4	57	0	0	57

S.No.	Course No.	Course Title	Categ.	Credit.	Mode a	Mode b	Mode c	Total
85	CEC4810	Colloquium	DC	2	57	0	0	57
86	CEC4910	Cad Lab-II	DC	2	57	0	0	57
87	CEC4980	Project Phase I	DC	4	57	0	0	57
88	CEE4580	Dam Engineering	DE	4	16	0	0	16
89	CEE4590	Industrial Pollution Control	DE	4	20	0	0	20
90	CEH4110	Construction Management II	HM	4	57	0	0	57
91	CEO4710	Disaster Management	OE	4	8	0	0	8
92	CEO4750	Project Management	OE	4	65	1	0	66
93	CEU1110	Environmental Studies	AU	0	266	0	0	266
94	CHA2010	Basic Principles of Chemical Engineering	ESA	4	8	8	0	16
95	CHA2020	Biology for Engineers	ESA	3	24	2	0	26
96	CHA2030	Fluid Mechanics	ESA	4	8	10	0	18
97	CHC2010	Basic Principles of Chemical Engineering	DC	4	24	4	0	28
98	CHC2030	Fluid Mechanics	DC	4	24	12	0	36
99	CHC2040	Fluid Particle Operations	DC	4	24	5	0	29
100	CHC2900	Computer Applications Lab	DC	1.5	24	1	0	25
101	CHC3080	Mass Transfer Operations	DC	4	29	4	0	33
102	CHC3090	Process Instrumentation	DC	3	29	0	0	29
103	CHC3100	Chemical Reaction Engineering-I	DC	3	45	0	0	45
104	CHC3110	Equilibrium Stage Processes	DC	4	29	3	1	33
105	CHC3800	Seminar and Report Writing	DC	1.5	30	1	0	31
106	CHC3940	Heat Transfer Lab	DC	1.5	29	1	0	30
107	CHC3950	Reaction Engg. & Thermodynamics Lab	DC	1.5	30	0	0	30
108	CHC4190	Process Engineering & Plant Design	DC	4	18	2	0	20
109	CHC4200	Chemical Process Industries -II	DC	3	18	0	0	18
110	CHC4900	CAD/Simulation Lab	DC	1.5	18	1	0	19
111	CHC4970	Plant Design Project A	DC	3	18	1	0	19
112	CHC4990	Process Control & Instrumentation Lab	DC	1.5	18	0	0	18

S.No.	Course No.	Course Title	Categ.	Credit.	Mode a	Mode b	Mode c	Total
113	CHE3210	Bio Process Engineering	DE	4	29	9	0	38
114	CHE4430	Petroleum Processing	DE	4	18	1	0	19
115	CHO4260	MATLAB for Scientist & Engineers	OE	4	60	2	0	62
116	COA1910	Computer Programming Lab	ESA	1.5	0	8	1	9
117	COA1911	Computer Programming Lab	ESA	2	267	0	0	267
118	COC2030	Object Oriented Programming	DC	4	61	3	2	66
119	COC2060	Data Structure and Algorithm	DC	4	61	3	0	64
120	COC2070	Digital Logic and System Design	DC	4	61	4	1	66
121	COC2910	Data Structure & OOP Laboratory	DC	2	61	2	0	63
122	COC3080	Digital Electronics	DC	4	64	2	1	67
123	COC3090	Microprocessor Theory & Applications	DC	4	64	2	0	66
124	COC3100	Operating Systems	DC	4	64	3	0	67
125	COC3930	Algorithms & Operating Systems Lab	DC	2	64	2	0	66
126	COC3950	Minor Project	DC	3	64	0	0	64
127	COC4010	Information Security	DC	4	56	0	0	56
128	COC4060	Compiler Design	DC	4	56	0	0	56
129	COC4950	Network & Embedded System Lab	DC	2	56	0	0	56
130	COC4980	B.Tech Project Part-I	DC	4	56	0	0	56
131	COE4310	Internet Tools	DE	4	46	0	0	46
132	COE4620	Natural Language Processing	DE	4	12	0	0	12
133	COE4630	Data Mining	DE	4	55	0	0	55
134	COE4640	Applied Machine Learning	DE	4	62	0	0	62
135	COO4460	Select. Topics in Computer Engg.-I	OE	4	60	0	0	60
136	EEA1110	Principles of Electrical Engineering	ESA	3	265	12	1	278
137	EEA2030	Electrical Engineering	ESA	3	24	2	0	26
138	EEA2960	Electrical Engineering Lab	ESA	1.5	24	3	0	27
139	EEA3010	Automation & Control	ESA	4	76	2	1	79
140	EEC2110	Electrical Machines-I	DC	4	72	3	5	80

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141	EEC2710	Circuit Theory	DC	4	72	5	0	77
142	EEC2720	Electromagnetic Field Theory	DC	4	72	6	2	80
143	EEC2730	Signals & Systems	DC	3	72	5	1	78
144	EEC2910	Electrical Machines Lab I	DC	2	72	2	0	74
145	EEC3110	Electrical Drives	DC	4	0	0	1	1
146	EEC3210	Power Electronics-II	DC	4	68	3	0	71
147	EEC3220	New and Renewable Energy Sources	DC	4	0	0	1	1
148	EEC3310	Power System Analysis	DC	4	68	3	0	71
149	EEC3510	Electrical & Electronic Instr.	DC	3	68	1	0	69
150	EEC3610	High Voltage Engineering	DC	3	68	0	0	68
151	EEC3910	Power Electronics Lab	DC	2	68	0	0	68
152	EEC4310	Power System Protection	DC	4	66	0	0	66
153	EEC4410	Control Systems	DC	4	66	0	0	66
154	EEC4910	Power System Protection Lab	DC	2	66	0	0	66
155	EEC4920	Control Lab	DC	2	66	0	0	66
156	EEC4930	Electric Machine Design	DC	2	66	0	0	66
157	EEC4940	Power System Design	DC	2	66	0	0	66
158	EEC4980	Project Phase-I	DC	2	66	0	0	66
159	EEE4310	Power Station Practice	DE	3	66	0	0	66
160	EEE4360	Smart Grid	DE	3	66	0	0	66
161	EEE4710	Numerical Computational Methods in Electrical Engg.	DE	3	66	0	0	66
162	ELA1110	Principles of Electronics Engineering	ESA	3	267	17	1	285
163	ELA2110	Electronic Devices and Circuits	ESA	4	89	10	1	100
164	ELA3020	Fundamentals of Communication Engineering	ESA	4	68	5	1	74
165	ELA3400	Communication Engineering	ESA	4	94	0	0	94
166	ELA3910	Electronics Engg. Lab	ESA	2	68	0	0	68
167	ELC2110	Electronic Devices & Circuits	DC	4	62	3	2	67
168	ELC2120	Circuit Theory	DC	4	62	2	0	64

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169	ELC2140	Electronic Circuits	DC	4	0	0	1	1
170	ELC2310	Logic Circuits	DC	4	62	11	0	73
171	ELC2410	Signals and Systems	DC	4	62	15	2	79
172	ELC2910	Electronics Lab- I	DC	2	62	3	0	65
173	ELC3110	Analog Electronics	DC	4	55	4	1	60
174	ELC3210	Control Systems	DC	4	55	3	0	58
175	ELC3310	Microprocessors & Microcontrollers	DC	4	0	9	0	9
176	ELC3311	Microprocessors & Microcontrollers	DC	4	55	0	0	55
177	ELC3410	Principles of Communication Engineering II	DC	4	55	7	1	63
178	ELC3510	Microwaves and Antennas	DC	4	55	5	0	60
179	ELC3610	VLSI Design & Technology	DC	4	0	11	2	13
180	ELC3611	VLSI Design & Technology	DC	4	55	0	0	55
181	ELC3910	Electronics Lab - III	DC	2	55	4	0	59
182	ELC3920	Communication Lab - I	DC	2	55	4	0	59
183	ELC3940	Communication Lab - II	DC	2	0	1	0	1
184	ELC4410	Communication Networks	DC	4	53	1	0	54
185	ELC4810	Colloquium	DC	2	53	2	0	55
186	ELC4910	VLSI and Signal Processing Lab	DC	2	53	0	0	53
187	ELC4980	Project Phase I	DC	3	53	0	0	53
188	ELE4120	Semiconductor Device Modelling	DE	4	0	0	2	2
189	ELE4510	Fibreoptic Communication	DE	4	39	2	0	41
190	ELE4520	Mobile Communication	DE	4	45	0	0	45
191	ELE4620	Digital IC Design	DE	4	23	2	1	26
192	EZH1110	English	HM	3	291	5	0	296
193	EZH1910	Communication Skills Lab	HM	2	270	0	0	270
194	EZH2910	Communication Skills Lab	HM	2	255	5	0	260
195	EZH3010	Fundamentals of Entrepreneurship	HM	3	48	0	0	48
196	EZH3020	Intellectual Property Rights for Engineers	HM	3	72	0	0	72

S.No.	Course No.	Course Title	Categ.	Credit.	Mode a	Mode b	Mode c	Total
197	EZH3030	Patent law for Engineers	HM	3	51	1	0	52
198	FTC2010	Mechanical operations in Food Industry	DC	4	8	3	0	11
199	FTC2020	Food Preservation and Processing	DC	3	8	1	0	9
200	FTC2900	Computer Applications Lab	DC	1.5	8	0	0	8
201	FTC3010	Mass Transfer Operations	DC	4	16	3	1	20
202	FTC3020	Cereal, Pulses & Oilseed Technology	DC	3	16	0	0	16
203	FTC3030	Food Fermentation and Biotechnology	DC	3	16	0	0	16
204	FTC3800	Seminar and Report Writing	DC	2	16	0	0	16
205	FTC3910	Food Analysis Lab	DC	1.5	16	0	0	16
206	FTC4010	Dairy Process Technology	DC	3	16	0	0	16
207	FTC4020	Selected Topics in Food Processing	DC	3	16	0	0	16
208	FTC4030	Baking Confectionary and Extruded Product Technology	DC	4	16	0	0	16
209	FTC4040	Food Law, Safety Standards & Regulations	DC	3	16	0	0	16
210	FTC4910	Advanced Food Processing Lab	DC	1.5	16	0	0	16
211	FTC4920	Food Engineering Lab	DC	1.5	16	0	0	16
212	FTC4980	Project Phase I	DC	2	16	0	0	16
213	FTE3010	Food Additives	DE	4	14	0	0	14
214	MEA1110	Engineering Thermodynamics	ESA	4	0	33	4	37
215	MEA1120	Engineering Mechanics	ESA	3	267	37	3	307
216	MEA1130	Thermal Sciences	ESA	4	267	0	0	267
217	MEA1910	Engineering Graphics Lab	ESA	2	265	18	0	283
218	MEA1920	Manufacturing Process Lab	ESA	1.5	24	4	4	32
219	MEA1921	Engineering Workshop	ESA	2	270	0	0	270
220	MEA2420	Experimental Methods & Analysis	ESA	3	58	19	2	79
221	MEA2940	Machine Drawing and Computer Graphics	ESA	2	11	1	0	12
222	MEA3011	Refrigeration and Cold Chain	ESA	3	16	0	0	16
223	MEC2110	Mechanics of Solids	DC	4	58	20	1	79
224	MEC2120	Kinematics of Machines	DC	3	58	10	1	69

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225	MEC2310	Fluid Mechanics-I	DC	4	58	10	0	68
226	MEC2410	Manufacturing Technology-I	DC	4	58	13	1	72
227	MEC2910	Machine Drawing	DC	2	58	2	0	60
228	MEC2920	Fluids Mechanics Lab	DC	2	58	2	0	60
229	MEC2930	Manufacturing Technology Lab-I	DC	1.5	58	2	0	60
230	MEC3110	Machine Design II	DC	4	76	4	1	81
231	MEC3210	Heat & Mass Transfer	DC	4	76	14	0	90
232	MEC3310	Fluid Mechanics II	DC	3	76	10	1	87
233	MEC3410	Industrial Engineering	DC	4	76	10	1	87
234	MEC3910	Heat & Mass Transfer Lab	DC	2	76	0	0	76
235	MEC3920	Machine Design Practice	DC	2	76	0	0	76
236	MEC4110	Mechanical Vibrations	DC	4	84	2	0	86
237	MEC4810	Industrial/Academic Training	DC	0	83	0	0	83
238	MEC4910	Project (Phase I)	DC	3	84	0	0	84
239	MEC4930	Manufacturing Technology Lab-III	DC	2	84	0	0	84
240	MEC4940	Vibrations Lab.	DC	2	84	0	0	84
241	MEC4950	Energy Conversion Systems Lab	DC	2	84	0	0	84
242	MEE4150	Computer Aided Design	DE	4	20	0	0	20
243	MEE4230	Refrigeration & Air Conditioning	DE	4	0	1	0	1
244	MEE4231	Refrigeration & Cold Chain	DE	4	8	0	0	8
245	MEE4240	Automotive Engineering	DE	4	15	0	0	15
246	MEE4291	Electric and Hybrid Vehicles	DE	4	42	0	0	42
247	MEE4440	Non Traditional Machining	DE	4	34	0	0	34
248	MEE4730	Data Analytics using Python	DE	4	46	0	0	46
249	MEH3450	Engineering Economy & Management	HM	4	156	0	1	157
250	MEH4810	Colloquium	HM	2	84	0	0	84
251	MEO4250	Air Pollution Technology	OE	4	38	1	0	39
252	PKC2010	Basic Principles of Chemical Engineering	DC	4	11	8	1	20

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253	PKC2030	Chemistry of Hydrocarbons	DC	4	11	2	0	13
254	PKC2050	Fluid Mechanics	DC	4	11	11	1	23
255	PKC2070	Reaction Kinetics and Reactor Design	DC	4	11	3	0	14
256	PKC2090	Fluid -Particle Operations	DC	4	11	2	1	14
257	PKC3010	Petroleum Refining Processes	DC	4	17	0	0	17
258	PKC3030	Heat Transfer Operations	DC	4	17	0	0	17
259	PKC3050	Mass Transfer Operations	DC	4	17	3	0	20
260	PKC3070	Refinery Engineering Calculations	DC	4	17	1	0	18
261	PKC3910	Computer Applications Laboratory	DC	2	17	0	0	17
262	PKC4010	Process Dynamics and Control	DC	4	16	1	0	17
263	PKC4030	Plant Design & Economics	DC	4	16	1	0	17
264	PKC4050	Petrochemical Technology-II	DC	4	16	1	0	17
265	PKC4070	Polymer Science and Technology	DC	4	16	1	0	17
266	PKC4810	Seminar	DC	2	16	0	0	16
267	PKC4970	Project Phase I	DC	3	16	0	0	16