



ARIHANT

ENGINEERING ACADEMY

SSC-JE

(STAFF SELECTION COMMISSION
-JUNIOR ENGINEER)

ONLINE TEST SERIES

ELECTRICAL ENGINEERING - SCHEDULE

No. of Test:- 30	
Subject Wise Mock Test	13
Mixed Subject Mock Test	07
Full Length Test	10

- All tests will be activating as per the date and valid up to the exam.

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Syllabus

Electrical Engineering

Paper – I

Basic concepts: Concepts of resistance, inductance, capacitance, and various factors affecting them. Concepts of current, voltage, power, energy and their units.

Circuit law : Kirchhoff's law, Simple Circuit solution using network theorems.

Magnetic Circuit : Concepts of flux, mmf, reluctance, Different kinds of magnetic materials, Magnetic calculations for conductors of different configuration e.g. straight, circular, solenoidal, etc.

Electromagnetic induction, self and mutual induction.

AC Fundamentals: Instantaneous, peak, R.M.S. and average values of alternating waves, Representation of sinusoidal wave form, simple series and parallel AC Circuits consisting of R.L. and C, Resonance, Tank Circuit. Poly Phase system – star and delta connection, 3 phase power, DC and sinusoidal response of R-L and R-C circuit.

Measurement and measuring instruments: Measurement of power (1 phase and 3 phase, both active and re-active) and energy, 2 wattmeter method of 3 phase power measurement. Measurement of frequency and phase angle. Ammeter and voltmeter (both moving oil and moving iron type), extension of range wattmeter, Multimeters, Megger, Energy meter AC Bridges. Use of CRO, Signal Generator, CT, PT and their uses. Earth Fault detection.

Electrical Machines : (a) D.C. Machine – Construction, Basic Principles of D.C. motors and generators, their characteristics, speed control and starting of D.C. Motors. Method of braking motor, Losses and efficiency of D.C. Machines. (b) 1 phase and 3 phase transformers – Construction, Principles of operation, equivalent circuit, voltage regulation, O.C. and S.C. Tests, Losses and efficiency. Effect of voltage, frequency and wave form on losses. Parallel operation of 1 phase /3 phase transformers. Auto transformers. (c) 3 phase induction motors, rotating magnetic field, principle of operation, equivalent circuit, torque-speed characteristics, starting and speed control of 3 phase induction motors. Methods of braking, effect of voltage and frequency variation on torque speed characteristics.

Fractional Kilowatt Motors and Single Phase Induction Motors: Characteristics and applications.

Synchronous Machines - Generation of 3-phase e.m.f. armature reaction, voltage regulation, parallel operation of two alternators, synchronizing, control of active and reactive power. Starting and applications of synchronous motors.

Generation, Transmission and Distribution – Different types of power stations, Load factor, diversity factor, demand factor, cost of generation, inter-connection of power stations. Power factor improvement, various types of tariffs, types of faults, short circuit current for symmetrical faults. Switchgears – rating of circuit breakers, Principles of arc extinction by oil and air, H.R.C. Fuses, Protection against earth leakage / over current, etc. Buchholtz relay, Merz-Price system of protection of generators & transformers, protection of feeders and bus bars. Lightning arresters, various transmission and distribution system, comparison of conductor materials, efficiency of different system. Cable – Different type of cables, cable rating and derating factor.

Estimation and costing: Estimation of lighting scheme, electric installation of machines and relevant IE rules. Earthing practices and IE Rules.

Utilization of Electrical Energy: Illumination, Electric heating, Electric welding, Electroplating, Electric drives and motors.

Basic Electronics: Working of various electronic devices e.g. P N Junction diodes, Transistors (NPN and PNP type), BJT and JFET. Simple circuits using these devices.

SSC – JE Online Test Series

Test Packages

S. No	Test series Title	Stream	Total Test	Price
1	SSC – JE Prelims Online Test Series	EE	30	1000/-

Test Details

S. No	Test Name	Test Type	Subject/ Syllabus	Tests	Questions	Marks	Duration	Total Tests	Total Questions
1	SSC – JE Online Test Series	Subject wise Tests	Full Syllabus	13	50	50	30 Minutes	30	3350
2		Mixed Subjects Test	Full Syllabus	7	100	100	60 Minutes		
3		Full Length Mock Tests	Full Syllabus	10	200	200	120 Minutes		

Test Schedule

EE

SSC – JE 2021 Prelims Online Test Series Schedule

Electrical Engineering

Test No./Name	Start Date	End Date	Subjects/ Topic Covered	No. of Questions	Total Marks	Total Time	Minus Marks
Subject Wise Test – 01 Basic Concept	23.10.2021	Till SSC – JE 2022 Prelims Exam	Basic Concepts Circuit Law	50	50	30	¼ Marks
Subject Wise Test – 02	30.10.2021	Till SSC – JE 2022	Magnetic	50	50	30	¼ Marks

Circuit law		Prelims Exam	Circuit				
Subject Wise Test –03 Magnetic Circuit	6.11.2021	Till SSC – JE 2022 Prelims Exam	AC Fundamentals	50	50	30	¼ Marks
Subject Wise Test –04 AC Fundamentals	13.11.2021	Till SSC – JE 2022 Prelims Exam	Measurement & Measuring Instruments	50	50	30	¼ Marks
Subject Wise Test –05 Measurement and Measuring Instruments	20.11.2021	Till SSC – JE 2022 Prelims Exam	Electrical Machines 1	50	50	30	¼ Marks
Subject Wise Test –06 Electrical Machines	27.11.2021	Till SSC – JE 2022 Prelims Exam	Synchronous Machine 2	50	50	30	¼ Marks
Subject Wise Test –07 Synchronous Machine	4.12.2021	Till SSC – JE 2022 Prelims Exam	Machine 3 (Transformer & DC Machine)	50	50	30	¼ Marks
Subject Wise Test –08 Generation, Transmission and Distribution	11.12.2021	Till SSC – JE 2022 Prelims Exam	General Transmission and Distribution	50	50	30	¼ Marks
Subject Wise Test –09 Estimation and Costing	18.12.2021	Till SSC – JE 2022 Prelims Exam	Estimating and Costing	50	50	30	¼ Marks
Subject Wise Test- 10 Utilization of Electrical Energy	25.12.2021	Till SSC – JE 2022 Prelims Exam	Utilization of Electrical Energy	50	50	30	¼ Marks
Subject Wise Test- 11 Basic Electronics	1.01.2022	Till SSC – JE 2022 Prelims Exam	Basic Electronics	50	50	30	¼ Marks

Subject Wise Test-12 General Intelligence & Reasoning	4.01.2022	Till SSC – JE 2022 Prelims Exam	General Intelligence & Reasoning	50	50	30	¼ Marks
Subject Wise Test- 13 General Awareness	8.01.2022	Till SSC – JE 2022 Prelims Exam	General Awareness	50	50	30	¼ Marks
Mixed Test – 01	15.01.2022	Till SSC – JE 2022 Prelims Exam	Basic Concepts + Circular Law + Magnetic Circuit	100	100	60	¼ Marks
Mixed Test – 02	22.01.2022	Till SSC – JE 2022 Prelims Exam	Basic Electronics + AC Fundamentals + Measurement and Measuring Instruments	100	100	60	¼ Marks
Mixed Test – 03	29.01.2022	Till SSC – JE 2022 Prelims Exam	Electrical Machine + Synchronous Machine	100	100	60	¼ Marks
Mixed Test – 04	05.02.2022	Till SSC – JE 2022 Prelims Exam	Generation , Transmission and Distribution	100	100	60	¼ Marks
Mixed Test – 05	12.02.2022	Till SSC – JE 2022 Prelims Exam	Estimation and Costing + Utilization of Electrical Energy	100	100	60	¼ Marks
Mixed Test – 06	15.02.2022	Till SSC – JE 2022 Prelims Exam	General Intelligence & Reasoning +General Awareness	100	100	60	¼ Marks
Mixed Test – 07	19.02.2022	Till SSC – JE 2022 Prelims Exam	General Intelligence & Reasoning +General Awareness	100	100	60	¼ Marks
Full length	22.02.2022	Till SSC – JE 2022	Full Syllabus	200	200	120	¼ Marks

Test – 01		Prelims Exam					
Full length Test – 02	25.02.2022	Till SSC – JE 2022 Prelims Exam	Full Syllabus	200	200	120	¼ Marks
Full length Test –03	01.03.2022	Till SSC – JE 2022 Prelims Exam	Full Syllabus	200	200	120	¼ Marks
Full length Test –04	04.03.2022	Till SSC – JE 2022 Prelims Exam	Full Syllabus	200	200	120	¼ Marks
Full length Test –05	08.03.2022	Till SSC – JE 2022 Prelims Exam	Full Syllabus	200	200	120	¼ Marks
Full length Test –06	11.03.2022	Till SSC – JE 2022 Prelims Exam	Full Syllabus	200	200	120	¼ Marks
Full length Test –07	15.03.2022	Till SSC – JE 2022 Prelims Exam	Full Syllabus	200	200	120	¼ Marks
Full length Test –08	18.03.2022	Till SSC – JE 2022 Prelims Exam	Full Syllabus	200	200	120	¼ Marks
Full length Test –09	22.03.2022	Till SSC – JE 2022 Prelims Exam	Full Syllabus	200	200	120	¼ Marks
Full length Test –10	25.03.2022	Till SSC – JE 2022 Prelims Exam	Full Syllabus	200	200	120	¼ Marks