# IES MASTER

Institute for Engineers (IES/GATE/PSUs)

## SSC-JE MAINS TEST SCHEDULE

## ELECTRICAL ENGINEERING

| Date | Topic |
|---|---|
| **TEST-1** 2nd Aug. 2021 | **N.T.** : CT-1, EM-1 |
| | **R.T.** : |
| **TEST-2** 8th Aug. 2021 | **N.T.** : CT-2, EM-2 |
| | **R.T.** : CT-1, EM-1 |
| **TEST-3** 16th Aug. 2021 | **N.T.** : CT-3, EM-3 |
| | **R.T.** : CT-2, EM-2,EM-1 |
| **TEST-4** 22nd Aug. 2021 | **N.T.** : EM-4 |
| | **R.T.** : CT-3, EM-3, CT-1, EM-2 |
| **TEST-5** 29th Aug. 2021 | **N.T.** : MC |
| | **R.T.** : EM-4, CT-2, EM-3 |
| **TEST-6** 5th Sept. 2021 | **N.T.** : GTD-1, MI-1 |
| | **R.T.** : CT-3, EM-4, MC |
| **TEST-7** 12th Sept. 2021 | **N.T.** : GTD-2, MI-2 |
| | **R.T.** : GTD-1, MI-1, CT-1, CT-2 |
| **TEST-8** 19th Sept. 2021 | **N.T.** : GTD-3, MI-3 |
| | **R.T.** : GTD-2, MI-2, CT-3, EM-1, MC |
| **TEST-9** 26th Sept. 2021 | **N.T.** : BEX |
| | **R.T.** : GTD-3, MI-3, CT-1, EM-2, MI-1 |
| **TEST-10** 3rd Oct. 2021 | **N.T.** : UEE |
| | **R.T.** : BEX, GTD-1, GTD-2, CT-2, EM-3, MI-2 |
| **TEST-11** 10th Oct. 2021 | **N.T.** : E&C |
| | **R.T.** : UEE, GTD-3, CT-3, EM-4, MC, BEX, MI-3 |
| **TEST-12** 17th Oct. 2021 | Full Length Test-1 |
| **TEST-13** 24th Oct. 2021 | Full Length Test-2 |
| **TEST-14** 31st Oct. 2021 | Full Length Test-3 |
| **TEST-15** 7th Nov. 2021 | Full Length Test-4 |

| Test Type | Timing |
|---|---|
| SSC-JE Mains Test | 10:00 A.M. to 12:00 P.M. |

Note : The timing of the test may change on certain dates. Prior information will be given in this regard.

*N.T. : New Topic. *R.T. : Revision Topic

Call us : 8010009955, 011-41013406 or Mail us : info@iesmaster.org

# Subject Code Details

| | | | |
|---|---|---|---|
| **Circuit Theory (CT)** | **CT-1** | **CT-2** | **CT-3** |
| | Concept of resistance, inductance, capacitance, various factor affecting them, Concepts of current, voltage, power, energy and their units, Kirchhoff's law, Simple circuit solution using network theorems | Instantaneous, Peak, RMS and average values of alternating waves, Representation of sinusoidal wave form, DC and sinusoidal response of RL and RC circuit | 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 |
| **Magnetic Circuit** | **MC** | | |
| | Concepts of flux,mmf,reluctance,Permeance,EMF, Different kinds of magnetic materials, Magnetic calculations for conductors of different configuration, Eg Straight, Circular and Solenoidal. | | |
| **Measurement and measuring instruments** | **MI-1** | **MI-2** | **MI-3** |
| | Measurement of power(1 Phase and 3 phase, both active and re active ) and energy, 2 wattmeter method of 3 phase power measurment, energy meter | Ammeter and voltmeter(both moving coil and moving iron type), extension of range wattmeter, multimeters, megger | AC bridges, use of CRO, Signal Generator, CT, PT and their uses , Earth fault detection, Measurement of frequency and phase angle |

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|---|---|---|---|---|
| **Electrical Machines** | **EM-1** | **EM-2** | **EM-3** | **EM-4** |
| | 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. | 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. | 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. | 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. |

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|---|---|---|---|
| **Generation, Transmission and Distribution** | **GTD-1** | **GTD-2** | **GTD-3** |
| | 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, various transmission and distribution system, comparison of conductor materials, efficiency of different system. Cable – Different type of cables, cable rating and derating factor. | 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 |
| **Estimation and costing** | **E&C** | | |
| | Estimation of lighting scheme, electric installation of machines and relevant IE rules. Earthing practices and IE Rules. | | |
| **Utilization of electrical energy** | **UEE** | | |
| | Illumination, Electric heating, Electric welding, Electroplating, Electric drives and motors. | | |
| **Basic electronics** | **BEX** | | |
| | Working of various electronic devices e.g. P N Junction diodes, Transistors (NPN and PNP type), BJT and JFET. Simple circuits using these devices. | | |

**For Any Query Regarding The Program**
**Call us :** 09711853908, 011-41013406 or **Mail us :** cqpp.iesmaster@gmail.com