

-: Syllabus :-

1) **SC/TO (Common paper for Mechanical, Electronics, Electrical, Computer Engineering)** Physics, Engineering Drawing, Computer Applications, Workshop, Mathematics, Engineering Measurement - I, Engineering Mechanics, Physical, Analytical & Inorganic Chemistry, Fundamentals of Electronic, Electronics Materials & Components, Essential of Environment & Seismic engineering, Engineering Chemistry, Basics of Information & Communication Technology, Basics of Mechanical Engineering, Environment & Sustainability, Engineering Mathematics, Electronic and Computer workshop practice, Basics of digital electronics, Fundamentals of Electrical & Electronics, Fundamentals of Computer, Basics of Computer programming, Fundamentals of Electrical engineering, Fundamentals of Electronics, Electronics workshop, Digital electronics, Electronic circuits & applications, Basics of electrical and electronic engineering, Applied Mathematics, Mechanical drafting

2) **Jr. Engineer (Discipline wise different Paper)– Mechanical, Jr. Engineer – Electronics, Jr. Engineer – Electrical , Jr. Engineer - Civil**

Mechanical Engineering: Theory of Machines & Machine Design, Engineering Mechanics and Strength of Materials, Thermal Engineering, Fluid Mechanics & Machinery, Production Engineering

Electronics Engineering: Materials and Components, Physical Electronics, Electron Devices and ICs, Signals and Systems, Network Theory, Electromagnetic Theory, Electronic Measurements and Electronic Instrumentation, Analog Electronic Circuits, Digital Electronic Circuits, Control Systems, Communication Systems, Microwave Engineering, Computer Engineering.

Electrical Engineering: General Engineering, Basic Electrical Engineering, Electrical Engineering, Analog Electronics, Electrical and Electronic Engineering Materials, Electrical Machines, Electrical Power, Power Electronics, Digital Electronics Microprocessors, Utilization of Electrical Energy, Control of Electrical Machine, Installation and Machine of Electrical Machine, Supply from the poles to the distribution board, Domestic Installation.

Civil Engineering: Building materials, Solid mechanics, structural analytics, design of steel structures, design of concrete & masonry structures, Construction practice, Planning & Management, Flow of fluids, Hydraulic Machines and Hydro power, Hydrology and water resources engineering, Environment Engineering, Geo-technical Engineering and Foundation Engineering, Surveying and Geology, Transportation Engineering.

3) CRA (Common Paper):

Mathematics: Algebra, Calculus, Statics & Dynamics, Multivariable Calculus, Differential Equations, Tensor & Geometry, Partial Differential Equations, Mathematical Methods, Abstract Algebra, Programming in C + +, Differential Geometry, Discrete Mathematics.

Chemistry: Structure and Bonding, Organic Chemistry, Quantitative Analysis (Physical & Volumetric), Qualitative Analysis (Organic & Inorganic), Inorganic Chemistry, Physical Chemistry

Physics: Mechanics and Relativity, Thermal Physics, Optics, Electromagnetic Theory and Basic Electronics, Classical Mechanics, Quantum Mechanics, Electronic Devices and Circuits, Statistical Mechanics, Solid State Physics, Elements of Nuclear Physics, Atomic Physics and Laser.

4) Maintainers (Discipline wise different paper):

Fitter Trade: Safety, Marking and Marking Tools, Hand Tools, Measurement and Measuring Tools, Metals, Cutting Tools & Operations, Forging, Heat Treatment, Sheet Metal Work, Soldering, Riveting, Welding, Lathe Construction, Lathe Accessories, Laths Tools, Screw Threads, Drilling and Reaming, Grinding, Preventative Maintenance.

Electrician Trade: Various Safety Measures, Identification of Trade, Fundamental of Electricity, Solders, flux and soldering technique, Ohm's Law and Kirchhoff's law, Concepts & types of circuits, Chemical effects of electrical current, Rechargeable dry cells, Lead acid cells, Magnetism, Resistance, Working principal and circuits of common domestic equipment and appliances, D. C. Machines, Armature, D. C. Motors, Insulating materials, Elementary first Aid.

Electronics: Hand Tools and their uses, Basics of AC Electrical Cables, Cell and Batteries, Passive Components, Transformers, AC and DC Measurements, Soldering & De-soldering and switches, Rectifiers, IC Regulators, Computer Hardware, OS, MS Office networking, Transistor, Amplifier, Wave shaping circuits, Power Electronic Components, MOSFET & IGBT, Opto Electronics, Basic SMD, Basic Gates, Combinational Circuits, Flip Flops, Electronic circuit simulation software, Counter & Shift Registers, Op-Amp & Timer 555 Applications, Digital Storage Oscilloscope, SMD Soldering and De-soldering, PCB Rework, Protection devices, Electrical control circuits, Electronic Cables & Connectors, Communication electronics, Microcontroller (8051), Sensor, Transducers and Applications, Analog IC Applications, Digital IC Applications, Fibre optic communication, Digital panel Meter, SMPS, UPS, Solar Power, Cell phones, LED Lights, LCD and LED TV.