

SYLLABUS COVERED DURING TRAINING

ALL TRADES

MATHEMATICS

SL.NO	TOPIC	PERIODS
1	About Numbers – Whole, rational, real, prime, etc, Divisibility test of whole numbers	01
2	Multiplication and Division	01
3	Fractions – add/sub/div/mult	01
4	Conversion – Fraction to decimal & decimal to fraction	01
5	Simplification	01
6	Factors of numbers	01
7	LCM	02
8	GCF/HCF	02
9	Average	02
10	Square roots & cube roots	02
11	Indices	02
12	Ratio & Proportion	02
13	Work, Speed, Distance	03
14	Percentage	01
15	Profit and Loss	03
16	Partnership	01
17	Simple Interest	02
18	Compound Interest	01
19	Mensuration (Area, Volume, Formulas, surface area, slant ht etc)	03
20	Factorisation	02
21	Quadratic Equation, roots, make eqn from roots	02
22	Equations with two and three variables	02
23	Trigonometry	02
24	Arithmetic and Geometric Progression, series- next numbers	02
25	Determinants	01
26	Set Theory	01
27	Probability	02
28	Matrices	01
29	Binary to decimal and decimal to binary	01
30	Surds	01
31	Logarithm	01
32	Value of function $f(x)$ for given value of 'x'	01
	Total	51

SYLLABUS COVERED DURING TRAINING - ALL TRADES

GENERAL KNOWLEDGE

SL.NO	SUBJECT	TOPICS	TOTAL PERIODS
1	Indian freedom movement	Sequence of events, Main events, Main leaders, slogans, etc	1
2	Indian culture civilisations	Singers, musicians, Dance, traditional Arts, community tribals, writers, poets etc	1
3	India Geological	Types of lands, soil, Main rivers, major cities, on river banks, mountain ranges and main peaks, sea ports, river ports lakes sanctuaries.	2
4	Religion	Preceptors, scriptures, specialities of Religion & Main events	1
5	National	Bird, Animal, Flower, Game, Flag, Song, Anthem etc.	1
6	India	Monuments, States, Capitals, other main cities and their specialities, different languages.	1
7	Indian Awards and Awardees		1
8	World Awards	Important Awards and awardees	1
9	World Geography	Continents, Main rivers and cities on their banks, capitals and sea and mountain ranges, main cities and their specialities.	1
10	World	Main countries, Capital Currency, Presidents, Famous Personalities Monuments	1
11	India Neighbouring countries and their specialities		1
12	Specialities	Wars in India	1
13	Sports	National and International championships, Important players, Number of players, special words used in Olympics, Asian and common wealth games.	1
14	Solar Systems	Planets and their moons.	1
15	Globe information	Latitude, longitude, solar eclipse, lunar eclipses, international date line IST, GMT, etc	1
16	Word space programmes	America, Russia, China, information on space programmers	1
17	Indian space mission	Indian space mission PSLV,GSLV, Satellites, Chandra & Mars Mission etc	1
18	War Equipment	Indian made war equipment e.g. Aircrafts, Ships, Tanks, Guns, Missiles, Cannons etc.	1
19	Abbreviations		1
20	Current affairs	National and International issues	5
		Total	25

SYLLABUS COVERED DURING TRAINING - ALL TRADES

GENERAL –SCIENCE

CHEMISTRY

SL.NO	TOPIC	TOTAL PERIODS
01	Structure of Atom, K,L,M,N.....Shells, Important Atomic Particles, Atomic numbers, Atomic Mass, Isotopes, and Isobars	02
02	Symbols of Elements, Alpha, Beta, and Gama rays, Radio Activity, important radioactive elements	01
03	Avogadro's Number Concept of Mol and gram mol,	01
04	Sub-shells in Atom, concept of Valency, cations and anions, electrovalent and covalent bonds.	01
05	Difference between mixture and compound, Types of compounds.	01
06	Difference between Atom and molecule. Molecular weight, % weight of element in a molecule	01
07	Oxidation and Reduction reactions, Endo/exothermic reactions	01
08	Acids and bases, indicators, neutralisation reactions.	01
09	Concept of P ^H , P ^H scale, acids in different food items and insects	01
10	Intro to Carbon compounds, Hydro-carbons, Alkanes, Alkenes and alkynes & general formulas	01
11	Chain, branch & ring compounds, important functional groups and compounds formed	01
12	Structure of benzene & imp derivatives, isomerism, allotropes of carbon.	01
13	List of imp minerals, & ores, their chemical formula (ref book)	01
14	Extraction processes of metals from ores	01
15	Introduction to periodic table and its imp aspects	01
16	Common names, chemical name and molecular formula of different chemicals (Ref book)	01
17	Balancing of Equations	01
18	Oxidation Number of element in a molecule	01
	TOTAL	20

SYLLABUS COVERED DURING TRAINING FOR ALL TRADES

GENERAL –SCIENCE

PHYSICS

SL.NO	TOPIC	TOTAL PERIODS
01	Metals and non metals – properties and exceptions	01
02	Metals and non metals, metallic character of elements	01
03	Freezing and melting point, Boiling point, effect of pressure on B.P., latent heat	01
04	Measurement of temperature, centigrade and Fahrenheit scales, types of heat transfer	01
05	Conversion from $^{\circ}\text{C}$ to $^{\circ}\text{F}$ & vice-versa, Practice sums	01
06	Mass, Volume, density, sp gravity, buoyancy	01
07	Archimedes Principle functioning of hydrometer, solving sums	
08	Concept, definition and units of displacement, velocity, acceleration, momentum etc	01
09	Definition and units of force, work, energy, and power.	01
10	KE & PE with examples sums on force, momentum, etc	01
11	Scalar and vector quantities and their examples, Introduction to Linear motion	01
12	Equations of motion and solving sums	01
13	Newton's laws of motion, practical examples of each law, solving sums	01
14	Force of attraction between two bodies, Gravitation constant	01
15	Concept of Gravity, change in 'g' at equator, poles, moon etc.	01
16	Introduction to flow of current, AC, & DC current	01
17	Current, Voltage, and resistance. Effective resistance, solving sums	01
18	Measurement of electrical parameters and of energy in units, house wiring, fuses.	01
19	Sums of on electricity consumption (bill), Heating effect of current. Transportation of electricity	01
20	Electricity – Revision	01
21	Magnetism - N & S poles compass, bar magnet, horse shoe magnet	01
22	Magnetism - Right hand thumb rule, Flemings Rt and Lt hand rules	01
23	Sound - types of waves, f audible & ultra sound frequencies , effect of medium and temp on speed of travel, Doppler effect	01
24	Instruments working on electricity, magnetism & sound	01
25	Light - Type of waves, EM Spectrum, frequency, wavelength, speed, visible light.	01
26	Seven colours and their relative frequencies, Images in plane mirror	01
27	Images in concave & convex mirror, uses of mirrors.	01
28	Mirror & Magnification formulas and solving sums	01
29	Images in convex lens, uses of convex lens, Power of lenses, effective focal length of two lenses kept together, solving sums	01
30	Construction of eye, defect in eye sight, lenses used to correct eye defects	01

SYLLABUS COVERED DURING TRAINING FOR ALL TRADES
GENERAL SCIENCE

PHYSICS(CONTD)

SL.NO	TOPIC	TOTAL PERIODS
31	Refraction of light, Snell's law, total internal Reflection, sums on Snell's law	01
32	Dispersion of light, relation between frequency and bending of light through Prism	01
33	Scattering of light.	01
34	Revision – Light	01
35	Types of Units, Dimensional units	01
36	Revise units of various entities (ref book)	01
37	Various types of instruments (ref book)	01
38	Scientists & their inventions (ref book)	01
	TOTAL	38

SYLLABUS COVERED DURING TRAINING FOR ALL TRADES
GENERAL SCIENCE

BIOLOGY

SL.NO	TOPIC	TOTAL PERIODS
01	Introduction, cells, and organelles in animals and plants	01
02	Cells and organelles in animals and plants	01
03	Cells and organelles in animals and plants	01
04	Animals and plant tissue	01
05	Animal and plant tissue	01
06	Xylem, Phloem, photosynthesis, parts of flower etc	01
07	Types of stems, roots etc, & revision	01
08	Different systems in human body & their functioning	01
09	Important glands, and hormone secreted	01
10	Components and functions of blood, blood circulation, heart, arteries & veins	01
11	Blood groups, vitamins & vitamin deficiency diseases	01
12	Minerals and mineral deficiency diseases	01
13	Various diseases corresponding body part affected, animal & insect vectors	01
14	Communicable and non communicable diseases, Bacteria, viruses, fungi & diseases caused by them	01
15	Reproduction in plants	01
	TOTAL	15

SYLLABUS COVERED DURING TRAINING FOR ALL TRADES
GENERAL SCIENCE

BIOLOGY

SL.NO	TOPIC	TOTAL PERIODS
01	Cells :- What is a cell, structural organisation of a cell, Names of different organelles, Explain Nucleus, Mitochondria, Plastids, Major differences in structure of animal cell and plant cell, Unicellular organisms	1
02	Tissues :- Names and special features of animal tissues, Names and important features of plant tissue. Explain stomata, Xylem, and Phloem, photosynthesis.	1
03	Biological Classification of animals :- Important characteristics of animals grouped in different biological classifications e.g cold/hot blooded; with or without back bone; number of chambers in heart etc.	1
04	Classification of plants as stem, roots, etc e.g carrot, potato, etc, Parts of a flower.	1
05	Different system in human body :- Digestive system, respiratory system, respiratory system, blood circulation system. Detailed information about blood structure, function, quantity, etc, Blood groups, BP. Important information about bones.	1
06	Glands in human body: Difference between Endocrine and Exocrine, Important glands, their main function and hormones released	1
07	Respiration in Animals (less humans) and plants.	1
08	Deficiency diseases in human beings.	1
09	Vitamin deficiency diseases, mineral deficiency diseases.	1
10	Other diseases in human beings : causes and grouping as per cause e.g virus, bacteria protozoa, fungi, body part affected, vectors/carriers.	1
11	Important animal diseases (less human)	1
12	Re-production in plants	1
	TOTAL	12

Weekly tests :	14
Solving old Question papers :	41
Total :	55

ADDITIONAL TOPICS COVERED FOR SOLDIER (TECH)

PHYSICS :-

<u>SL.NO</u>	<u>TOPIC</u>	<u>TOTAL PERIODS</u>
01	Photo-electric effect	01
02	Surface Tension	01
03	Principles of Simple Electrical measuring instruments	01
04	Vernier Callipers, screw guage etc.	01
05	Centrifugal and Centripetal forces.	01
	Total	05

CHEMISTRY :-

<u>SL.NO</u>	<u>TOPIC</u>	<u>TOTAL PERIODS</u>
01	Periodic Table	01
02	Basics of Radioactivity	01
03	Equations of gas laws	01
04	Osmosis & osmotic pressure	01
	Total	04

Additional Topics covered for Soldier Clerk/SKT

ENGLISH

SL.NO	TOPIC	TOTAL PERIODS
01	Parts of speech, types of nouns	01
02	Countable/Uncountable nouns, plurals of nouns, gender, person etc	01
03	Forms of Verbs, Positive sentences in simple present tense, use of – S form	01
04	Simple past tense	01
05	Present future tense	01
06	Yes – No questions	01
07	Wh – questions	01
08	Use of auxiliary verbs	01
09	Direct – Indirect speech	01
10	Active – passive sentences	01
11	Question tags	01
12	Word building	01
13	Synonyms & antonyms	01
14	Essay writing	04
15	Letter writing	04
16	Comprehension	03
	TOTAL	24

COMPUTER SCIENCE

SL. NO	MAIN TOPIC	SUB –TOPIC	TOTAL PERIODS
1	Computer/parts of computer	Keyboard and its functions, monitor types, CPU, system units, and its parts. Mouse and its types, printers and its types	1 ½
2	Data and information	Bus, Bit, Byte, Kilo Byte, Mega Bite	1
3	Storage and types	RAM, ROM, PROM, EPROM, Hard Disc, CD, DVD	1
4	Booting,	scanning, formatting, fragmentation, compilation	1
5	Software	System software, application software, suites, short cut keys, lunex, android,	2
6	Programmes	Dos, windows, XP, unix, word, excel, power point presentation Access (Data Base)	2
7	Networking	LAN, WAN, Server, Proxy Server	1
8	Virus	Worm	1
9	Antivirus	Names of Antivirus in market, updating	1
10	Document	Word file, notepad, saving, naming, renaming, deleting, compressing	1 ½
11	Internet	Web, email, subject, attachment, and email features, connectivity, browser, Utility, www, modem, ISPS, Domain, HTML	2
		Total	15

Additional Topics covered for Maharashtra Police

Marathi :-

अभ्यासक्रम - मराठी

अ.नु	घटक	एकूण तास
1	मराठी भाषा, लिपी, वर्ण, स्वर, स्वरादी, व्यंजो, वर्णमाला	3
2	संधी -स्वर, व्यंजा, विसर्ग, संधी, मराठीतील विशेष संधी	2
3	शब्दांच्या जाती - विकारी नाम, सर्वनाम, विशषण क्रियापद - पोट प्रकार. अविकारी- क्रिया विशषण शब्दयोगी उभयावयी - केवल प्रयोगी -पोट प्रकार.	2 1
4	क्रियापदाचे काळ, अर्थ, प्रकार, रूप.	1
5	लिंग, वचा, विभक्ती प्रत्यय.	3
6	प्रयोग - कर्तरी, कर्मणी, भावे.	1
7	समास, अययीभाव, तत्पुरुष, द्वंद्व बहुव्रीही.	2
8	शब्दसिंधी तत्सम, तद्भव, देशी, परभाषी, उपसर्गधरीत, प्रत्यघटीत, समास, अभ्यस्त.	2
9	वाक्याचे प्रकार - केवल, मिश्र, संयुक्त. होकारार्थी, ाकारार्थी, आज्ञार्थी, उदगार्थी,	2
10	भाषेचे, अलंकार - आुप्रास, यमक, श्लेष, उपमा, उत्प्रेक्षा. ü	3
11	शब्दाच्या शक्ती, रस, काव्यगुण	4
12	वाक्यप्रचार, समानार्थी, विरुद्धार्थी शब्द	2
13	समूहदर्शक शब्द, म्हणी	2
14	विरामचिहे.	1
15	शुद्धलेखा	1
		32

Additional Topics covered for Soldier Clerk/SKT

ENGLISH

SL.NO	TOPIC	TOTAL PERIODS
01	Parts of speech, types of nouns	01
02	Countable/Uncountable nouns, plurals of nouns, gender, person etc	01
03	Forms of Verbs, Positive sentences in simple present tense, use of – S form	01
04	Simple past tense	01
05	Present future tense	01
06	Yes – No questions	01
07	Wh – questions	01
08	Use of auxiliary verbs	01
09	Direct – Indirect speech	01
10	Active – passive sentences	01
11	Question tags	01
12	Word building	01
13	Synonyms & antonyms	01
14	Essay writing	04
15	Letter writing	04
16	Comprehension	03
	TOTAL	24

Intelligence Test :-

<u>SL.NO</u>	<u>TOPIC</u>	<u>TOTAL PERIODS</u>
01	Comprehension	01
02	Classification	01
03	Analogy	01
04	Series	01
05	Code	01
06	Rhythmic Arrangement	01
07	Pyramid	01
08	Reflection	01
09	Puzzles	01
10	Logical Reasoning	01
11	Figure analysis	01
12	Miscellaneous	01
13	Test & Revision	01
		13