

GOVERNMENT OF JAMMU AND KASHMIR
JAMMU & KASHMIR SERVICES SELECTION BOARD
Muthi, Akhnoor Road, Jammu/ Zamzam Complex Rambagh Srinagar
www.jkssb.nic.in

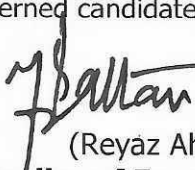
NOTICE

Subject: Syllabus for the various posts advertised vide Notification No. 13 of 2025 dated 26.12.2025.

The Jammu and Kashmir Services Selection Board has advertised various posts vide Advertisement Notification **No. 13 of 2025 dated 26.12.2025**. Accordingly, the syllabus for the posts mentioned below is hereby notified, as detailed in **Annexures "A" to "H"** to this Notice.

S. No.	Department	Name of Post	Item No.	Syllabus Annexure
1.	Industries and Commerce	Assistant Handicrafts Training Officer	300 & 301	Annexure "A"
2.		Assistant Handlooms Training Officer	302	
3.	Social Welfare	Supervisor	307 to 314	Annexure "B"
4.	Transport	Motor Vehicle Traffic Assistant	317	Annexure "C"
5.		Fitter	318	Annexure "D"
6.		Greaser Washer	319	Annexure "E"
7.		Mechanic	320	Annexure "F"
8.		Stores Officer	321	Annexure "G"
9.		Upholster	322	Annexure "H"

The syllabus for the remaining posts shall be notified separately. This notice is issued for the purpose of intimation to the concerned candidates only.


(Reyaz Ahmad Malik) JKAS
Controller of Examination, JKSSB

No. JKSSB-COE0EXAM(UT)/47/2023-03(7202120)

Dated: 10.08.2026

Copy to the: -

1. Commissioner/Secretary to the Government, General Administration Department, Civil Secretariat, J&K, Srinagar.

2. Director, Information & Public Relations, J&K, with the request to get the said notification published in at least two leading local newspapers of Jammu/Srinagar for three consecutive days.
3. Member(s) ALL, J&K Services Selection Board.
4. Secretary, J&K Services Selection Board.
5. P.S. to Chairperson, J&K Services Selection Board for the information of Chairperson.
6. In-charge Website, Services Selection Board, Jammu.
7. Office record.

Annexure "A"

Syllabus for the post of Assistant Handicrafts Training Officer and Assistant Handlooms Training Officer (AHTO)

Marks: 120

Time: 02.00 Hrs.

S.No.	Subjects/Topic	Marks assigned
1.	GENERAL AWARENESS with special reference of UT of J&K	24
2.	GENERAL ENGLISH & COMPREHENSION	24
3.	GENERAL INTELLIGENCE & REASONING	24
4.	QUANTITATIVE APTITUDE	18
5.	BASIC KNOWLEDGE OF COMPUTERS	30
	TOTAL	120

1. GENERAL AWARENESS with special reference of J&K UT

- i. Current Events of National and International importance
- ii. Political & Physical divisions of India
- iii. Climate & Crops in India
- iv. Transport & Communication.
- v. Demography- Census, its feature and Vital Statistics.
- vi. Important Rivers & Lakes in India.
- vii. Indian Economy.
- viii. Indian Culture & Heritage.
- ix. Indian History with special reference to Freedom Movement.
- x. Indian Constitution- Basic features-Preamble, Fundamental Rights, Fundamental Duties, Directive Principles of State Policy.
- xi. Science & Technology.
- xii. Environment, Ecology & Bio-diversity.
- xiii. Taxation in India- Direct & Indirect Tax - CBDT, GST etc.
- xiv. J&K UT
 - a) History
 - b) Economy
 - c) Geography- (Weather, Climate, Crops, Rivers, Lakes, Flora, Fauna.)
 - d) Heritage & Culture
 - e) Important Tourist Destinations
 - f) J&K Reorganization Act, 2019.
- xv. Centrally Sponsored Schemes (MGNREGA, PMAY, SBM) and Panchayati Raj Act/Rules.

2. GENERAL ENGLISH & COMPREHENSION

- (i) Tenses
- (ii) Narration
- (iii) Modals
- (iv) Articles
- (v) Reading Comprehension
- (vi) Fill in the blanks with Phrases, Pronouns, homonyms/homophones etc
- (vii) Clauses
- (viii) Synonyms and antonyms
- (ix) Pairs of words and their use in meaningful sentences.
- (x) Rearranging of jumbled sentences.
- (xi) Idioms and phrases.
- (xii) Uses of Prepositions.
- (xiii) Active & Passive Voice
- (xiv) Error Spotting
- (xv) Sentence Correction
- (xvi) Spellings Correction

3. GENERAL INTELLIGENCE & REASONING

- (i) Number series, Letter series, Semantic Series, Speed, Distance and Time, Statements and conclusions, Logical Reasoning, Mental Reasoning, Word Building, Numerical Operations, Semantic Analogy, Symbolic/Number Analogy, Figural Analogy, Semantic Classification, Symbolic/Number Classification, Figural Classification, Problem Solving.
- (ii) Symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing inferences, Punched hole/pattern- folding & un-folding, Figural Pattern- folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/roll numbers, Small & Capital letters.

4. QUANTITATIVE APPTITUDE

The scope of the test will be computation of

- (i) Whole numbers, decimals, fractions and relationships between numbers, Profit and Loss, Discount, Partnership Business, Mixture and Alligation, Time and distance, Time & Work, Percentage. Ratio & Proportion, Square roots, Averages, Interest, Basic algebraic.
- (ii) Graphs of Linear Equations, Triangle and its various kinds of centers, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of a circle, common tangents to two or more circles, Triangle, Quadrilaterals, Regular Polygons, Circle, Right Prism, Right Circular Cone, Right Circular Cylinder, Sphere, Heights and Distances, Histogram, Frequency polygon, Bar diagram & Pie chart, Hemispheres, Rectangular Parallelepiped, Regular Right Pyramid with triangular or square base, Trigonometric ratio, Degree and Radian Measures, Standard Identities, Complementary angles.

5. KNOWLEDGE OF COMPUTERS

- (i) Basic Applications of Computer and its component.
- (ii) Fundamentals of computer sciences.
- (iii) Hardware & Software, Concept of Open-Source Technologies.
- (iv) Input & output Devices.
- (v) Knowledge of MS Word, MS Excel, MS Access, MS PowerPoint, PDF Internet and E-mail.
- (vi) Concept of Computer Virus and Latest Anti-Virus.
- (vii) Role of Information Technology in Governance.

Annexure "B"

Syllabus for Written test (Objective Type) for the post of Supervisor in Mission Poshan, Social Welfare Department.

Marks: 120

Time: 120 mins.

The exam shall aim to evaluate the candidates for their scientific, analytical and numerical aptitude and their general awareness over the broad range of subjects including the specialized subjects. The medium of examination shall be English.

S. No.	Subjects/Topics	Marks Assigned
1.	General awareness with special Reference of UT of J&K	20
2.	General English & Comprehension	10
3.	General intelligence & Reasoning	10
4.	General Science	10
5.	Computer (Application based)	10
6.	Specialization	60

1. General Knowledge with special reference to J&K: Marks: 20

- Current Events of National importance.
- Indian History, Culture, Heritage and Freedom Struggle/Movement.
- Indian Constitution- Basic Features, Preamble, Fundamental Rights, Fundamental Duties, Directive principles of State policy.
- Political & Physical divisions of India.
- Demography- Census, its feature and functions.
- Weather, Climate, Crops, Means of Transport of India.
- Environment, Ecology & Bio-diversity
- J&K UT: History, Geography, Economy, Heritage & Culture, J&K Reorganization Act, 2019

2. General English & Comprehension Marks: 10

- Tenses.
- Rearranging of jumbled sentences.
- Narration.
- Modals/Articles.
- Clauses.



- vi. Synonyms and antonyms.
- vii. Pairs of words and their use in meaningful sentences.
- viii. Idioms and phrases.
- ix. Uses of Prepositions.
- x. Active & Passive Voice.

3. **General intelligence & Reasoning**

Marks: 10

a. Basic Arithmetic:

- i. Number System.
- ii. Percentage.
- iii. Average.
- iv. Profit & Loss.
- v. Ratio & Proportion.
- vi. Time & Work.

b. Reasoning:

- i. Number series.
- ii. Letter series.
- iii. Coding decoding.
- iv. Direction sense.
- v. Blood relations.
- vi. Mathematical reasoning.
- vii. Speed, Distance and Time.
- viii. Statements and conclusions.

4. **General Science**

Marks: 10

- i. Various sources of energy.
- ii. Nutrition and its types, Respiration, Transportation of water, food and minerals in plants.
- iii. Communicable & Non-Communicable Diseases.
- iv. Vitamins- Diseases related to vitamin deficiency.
- v. Ecosystem - Its components, Food chains and Food webs.
- vi. Environmental pollution. Ozone layer, its depletion, Green House Effect.
- vii. Vaccines and Immunization.

5. **Computer**

Marks: 10

- i. Basic Applications of Computer and its components.
- ii. Fundamentals of computer sciences.
- iii. Input & output Devices.
- iv. Knowledge of MS Word, MS Excel, MS Access, MS Power point, PDF Internet and E-mail.
- v. Concept of Computer Virus and Anti-Virus.

- vi. Hardware & Software, Elements of Computers Processing System Hardware, CPU, Peripherals, Storage Media, Software Definition, Role and Categories Firmware and Human-ware.
- vii. Role of Information Technology in Governance.

6. **Specialization:**

60 Marks

UNIT-1

Marks: 10

- i. Society, Community, Association
- ii. Social Stratification: Caste, Class and Social Stratification in India
- iii. Social Institutions: Norms, Values, Folkways and Mores
- iv. Marriage, Kinship and family.
- v. Social Change: Industrialization, Globalization, Modernization.

UNIT-2

Marks: 10

- i. Gender inequalities and issues.
- ii. Gender law & Human rights.
- iii. Stages and theories of Human development (Freud, Erikson).
- iv. Socialization and its theories.
- v. Anxiety disorders: Phobia, OCD, GAD, Panic disorder, PTSD.

UNIT-3

Marks: 10

- i. Human Rights: Concept and Evolution
- ii. Universal Declaration of Human Rights
- iii. Understanding sex, Gender, Sexual division of labour.
- iv. Women rights/ Child rights
- v. Social evils- Child abuse, Child labour, Female feticide, infanticide and Drug Addiction

UNIT-4

Marks: 10

- i. Poverty and unemployment
- ii. Population explosion, Global warming and Climate Change
- iii. Indicators of social development
- iv. Trafficking, Beggary, Corruption



UNIT-5

Marks: 10

- i. Growth and development
- ii. Food, Nutrition, Health and fitness
- iii. Physiology and promoting health
- iv. Food science and processing
- v. Chemical analysis of food
- vi. Food and personal hygiene

UNIT-6

Marks: 10

- i. Government and Non Government Programmes- Medical health care, Adoption, Foster care, Institutional care, children act and children rights
- ii. Health and Family Welfare Programmes
- iii. Early childhood care and education
- iv. Old age and Disability Schemes
- v. Poshan Abhiyan, Poshan tracker, Poshan vaticas, Supplementary Nutrition Programme
- vi. Anganwadi Services, Pradhan Mantri Matru Vandana Yojana (PMMVY), Scheme for Adolescent Girls (SAG), Janani Suraksha Yojana (JSY), National Health Mission (NHM)
- vii. Paalna- convergence of Anganwadi Centers into crèches
- viii. Ladli Beti Schemes, State Marriage Assistance Scheme etc.



Annexure "C"

Marks: 120
Time: 02 Hours

Written Examination Syllabus for **Motor Vehicle Traffic Assistant** – Transport Department

1. Motor Vehicles Act (MVA)

Driving licence (necessity & age limits), No vehicle without registration, Fitness certificate (transport vehicles), Permit requirement, Overloading & weight limits, Power to demand documents, General offences, Speeding & dangerous driving, Overloading penalty, Drunken driving.

2. Central Motor Vehicles Rules (CMVR)

Driving licence categories, Registration details, Alteration of vehicle, Fitness certificate, Transport vehicle conditions, Safety devices, Wearing helmet / seat belt, child restraints. Speed control, drunk driving checks, mobile phone usage violations, Breath analyser & medical examination. Road safety awareness and public education. Handheld device operation, QR code / digital receipt system, DigiLocker & mParivahan verification. E-Challan system, VAHAN & SARATHI portals, Online verification of documents, CCTV, speed cameras, ANPR systems, Basic computer and mobile app handling

3. Traffic Regulation & Control

Traffic flow management at intersections. Manual traffic control during signal failure, Crowd and vehicle management during events, VIP movement, emergencies. Diversion planning and lane discipline enforcement. Pedestrian safety and zebra crossing management.

Road Safety & Accident Prevention: Causes of road accidents (human, vehicle, road, environment). Defensive driving principles. Immediate steps at accident site, Securing the scene and traffic diversion, Basic first aid knowledge, Coordination with police, ambulance, and hospitals. Accident reporting and preliminary documentation.

4. Traffic Rules & Road Safety

Road Signs & Signals: Mandatory signs, Cautionary signs, Informatory signs. Road Markings: Solid vs broken lines, Zebra crossing, Stop line, Lane markings.

Hand signals by traffic police, Right of way rules, Junction discipline, Lane discipline. Mandatory documents required to drive a vehicle on road.

5. Basic Vehicle Awareness:

Two-wheeler / LMV / Transport vehicle types. Brake lights, indicators, headlights. Tyre condition & overloading signs. Horn, mirror, number plate standards. Emission smoke colour basics.

Reporting & Record Keeping, Daily duty registers, Traffic violation reports, Accident records, Evidence handling (photos, CCTV references)

6. Basics of Road Transport System

Types of road transport: Passenger transport & Goods transport, Public vs private transport system, Advantages and limitations of road transport. Structure of transport department, Functions of transport authorities,

7. Driver & Vehicle Fleet Management

Driver training and licensing control, Duty hours and rest regulations, Driver discipline and conduct, Alcohol, fatigue, and safety awareness. Vehicle scheduling and routing, Fleet utilization, Preventive maintenance planning, Breakdown management, Record keeping (log books, service records).

8. Traffic Management & Road Safety

Traffic flow and congestion control, Causes of road accidents, Accident prevention measures, Road safety rules and signage, Role of enforcement in safety improvement.

9. Road Transport Management

Bus operations and scheduling, Seating capacity control, Fare regulation (conceptual), Passenger safety and comfort, Special provisions for school buses. Types of goods vehicles, Loading and unloading practices, Overloading control, Transport of hazardous goods (basic awareness), Documentation for goods transport.

Annexure "D"

Marks: 120
Time : 02 Hours

Written Examination Syllabus for Fitter – Transport Department, J&K

Basics of Vehicle Maintenance

Preventive and breakdown maintenance planning; Log books, service registers, and history cards; Spares requirement forecasting; Cost-effective repair decisions (repair vs replace). Enforcement of workshop safety rules; Handling breakdowns during emergency duty; Accountability for workmanship; Coordination with stores, transport officers, and inspectors.

Engine oil grades (basic idea like 10W-30, 15W-40), Gear oil & differential oil, Brake fluid, Coolant /antifreeze, Grease types and their automotive applications, Proper disposal of used oil and waste. Engine oil and oil filter change; Air filter replacement; Fuel filter replacement; Fluid top-ups (washer fluid, differential oil, power steering); Belts and hoses inspection (serpentine, V-belts, coolant hoses); Exhaust leaks and noise check; Vehicle safety inspection (horn, seat belts, lights).

Automotive Engine

Types of vehicles (transport / non-transport), Passenger vs goods vehicles, Basic vehicle layout and identification. Working principles of Petrol and Diesel engines. Engine components: Cylinder, piston, crankshaft, valves, camshaft. Fuel types and storage. Fuel delivery systems. Carburetor, fuel injection basics Radiator, coolant, thermostat, water pump basics.

Spark plug replacement (petrol) / glow plug check (diesel); Timing belt/chain inspection and replacement; Engine coolant/antifreeze replacement; Throttle body cleaning; Engine tune-up. Radiator inspection and cleaning; Coolant replacement; Thermostat check; AC system service (refrigerant top-up, filter change, compressor check); Heater core and blower inspection Fuel pump and injector cleaning; Fuel line inspection; Exhaust system inspection (muffler, catalytic converter, pipes).

Transmission System

Purpose of clutch, types of clutches, clutch components, clutch plate, pressure plate, and clutch linkage types. Necessity of Gear boxes, types of gear boxes, gear box linkages, propeller shafts and its types. Drive axles, universal joints and constant velocity joints. Final drive and differential, Power transmission path to wheels. Transaxle. Basics of Automatic transmission. Gearbox oil change (manual / automatic); Clutch inspection and adjustment / replacement; Drive shaft and CV joint inspection; Differential oil change; Transmission flush (automatic transmission).

Suspension, Steering & Brakes

Physics of braking, working principle and construction of Hydraulic braking system, Disc and drum brakes, Parking brake, ABS. Brake pad/shoe replacement; Brake disc/drum inspection and resurfacing; Brake fluid check and replacement; Brake line/hoses inspection; Caliper inspection and lubrication.

Manual and power steering, steering linkage types, steering gears. Basic suspension types, Effect on stability and control. Power steering fluid check and refill; Steering linkage and tie rod inspection; Shock absorber/strut replacement; Suspension bush and spring inspection; Wheel alignment and balancing.

Tyre construction, Tyre size and markings, Tyre condition and wear, Load rating and retreading rules. Tire rotation and balancing, Wheel alignment, Tire pressure check and inflation, Tire replacement and inspection for wear/damage.

Automotive Electrical Systems

Electrical & Electronic Systems: Battery, working principle and construction of alternator, and starter motor. Lighting and signaling systems, Horn and warning devices. Lighting & visibility: Headlamps, tail lamps, indicators, reflectors, mirrors.

Battery terminals and polarity, Fuses and relays, Headlights, indicators, horn wiring, Starter motor & alternator basics, Using a test lamp or multimeter (basic). Battery inspection, cleaning, and replacement; Alternator and starter motor check; Lighting system check (headlamps, indicators, brake lights); Fuses and relays check; Wiper motor and washer system service.

Workshop Tools & Equipment

Hand tools: Wrenches; torque wrenches, sockets, ratchets, extensions, and breaker bars; hammers and mallets; screwdrivers; files; pliers; hacksaw; chisels and punches; removers and screw extractors; gear and bearing pullers; trouble light; creeper.

Power tools: impact wrench; air drill; blow gun; air/electric ratchet; air powered grinder, bench grinders, bench vice, presses, grease gun.

Jacks and lifts: floor jack; portable crane; lifts; engine stand/bench, Air compressor, Hydraulic jack & jack stands, Wheel balancer (basic assistance), Tyre changer.

Annexure "E"

Marks:120

Time:02 Hours

Written Examination Syllabus for **Greaser Washer** – Transport Department, J&K

1. Basics of Automobile Service

Role and responsibilities of a lube technician, types of automotive workshops (dealer, independent, government), service flow, job cards, importance of preventive maintenance, coordination with senior mechanic and workshop supervisor.

Daily, weekly and periodic service tasks, manufacturer service intervals, common inspection checklists, identifying early signs of wear, importance of preventive maintenance in government and fleet vehicles.

Personal protective equipment (PPE), fire safety, handling hot fluids, spill control, safe lifting practices, waste oil collection, disposal of used filters, environmental regulations, cleanliness and housekeeping.

Hand tools identification, torque wrench use, oil dispensers, vacuum oil extractors, lifts and jacks, safety stands, air compressors, pressure gauges, cleaning equipment, proper tool handling and storage.

2. Basics of Automobile Engineering

Basic layout of an Automobile. Working principles of Petrol and Diesel engines. Engine components: Cylinder, piston, crankshaft, valves, camshaft. Fuel types and storage. Fuel delivery systems. Carburetor, fuel injection basics Radiator, coolant, thermostat, water pump basics. Clutches, Manual vs automatic transmission basics. Hydraulic brakes, disc and drum brakes. Manual and power steering basics. Basics of Battery, Alternator and starter motor and lighting system.

3. Lubrication Fundamentals

Purpose of lubrication, friction and wear, types of lubrication (boundary, hydrodynamic), properties of lubricants, viscosity and viscosity index, SAE grades, API classification, mineral, semi-synthetic and synthetic oils, effects of poor lubrication on engine life.

Engine oil functions, oil capacity checking, oil change intervals, oil draining methods, replacement of oil filters (spin-on, cartridge type), oil strainer cleaning, torque tightening of drain plug, oil leakage inspection, resetting service indicators. Air filter cleaning and replacement (dry and wet type), fuel filter replacement.

Coolant types and composition, antifreeze importance, coolant replacement procedure, radiator flushing basics, hose inspection, checking coolant concentration, common cooling system faults due to poor maintenance.

4. Driveline Service

Grease types and grades, grease gun operation (manual, pneumatic), lubrication points in chassis, propeller shaft, suspension joints, wheel bearings, U-joints, importance of periodic greasing, over-greasing vs under-greasing effects.

Gearbox oil types, differential oil grades, checking oil level, oil replacement procedures, signs of worn or contaminated gear oil, CV joints lubrication basics.

Brake fluid types (DOT 3, DOT 4, DOT 5), brake fluid replacement intervals, bleeding basics, caliper slide pin lubrication, handbrake cable lubrication, identifying brake oil leaks, basic brake wear checks.

Power steering fluid types, checking and topping up fluid, fluid replacement, hose and seal inspection, basic hydraulic leakage identification, EPS vs HPS overview.

5. Battery & Electrical and tyres

Battery types, electrolyte level checking, terminal cleaning, corrosion prevention, alternator belt inspection, fuse identification, basic warning lights related to lubrication and maintenance.

Tyre types and construction, tyre pressure checking, tread wear patterns, tyre rotation methods, wheel nut tightening sequence, use of torque wrench, wheel balancing basics, spare wheel handling.

6. Car washing and detailing

Visual inspection for damage, covering electrical and sensitive parts, removal of loose dirt and mud, correct washing sequence planning. Washer Personal protection equipment, Standard car washing procedure.

High pressure washing equipment, manual washing tools, Drying & Finishing Tools, Interior Cleaning Tools, Washing Chemicals & Liquids, Protection & Finishing Chemicals. Precautions while washing engine bay, electrical and electronic systems, brake area.

Written Examination Syllabus for **Mechanic** – Transport Department, J&K

1. Basics of Vehicle Maintenance

Types of vehicle maintenance, Preventive maintenance schedule, Cost-effective repair decisions (repair vs replace). Handling breakdowns during emergency duty; Accountability for workmanship; Coordination with stores, transport officers, and inspectors.

Engine oil grades (basic idea like 10W-30, 15W-40), Gear oil & differential oil, Brake fluid, Coolant / antifreeze, Grease types, Proper disposal of used oil and waste.

Belts and hoses inspection (serpentine, V-belts, coolant hoses); Exhaust leaks and noise check; Vehicle safety inspection (horn, seat belts, lights).

2. Driveline

Purpose of clutch, types of clutches, clutch components, clutch plate, pressure plate, and clutch linkage types. Necessity of Gear boxes, types of gear boxes, gear box linkages, propeller shafts and its types. Drive axles, universal joints and constant velocity joints. Final drive and differential, Power transmission path to wheels. Transaxle. Basics of Automatic transmission.

Gearbox oil change (manual / automatic); Clutch inspection and adjustment / replacement; Drive shaft and CV joint inspection; Differential oil change; Transmission flush (automatic transmission).

3. Running gear

Physics of braking, working principle and construction of Hydraulic braking system, Disc and drum brakes, Parking brake, ABS. Brake pad/shoe replacement; Brake disc/drum inspection and resurfacing; Brake fluid check and replacement; Brake line/hoses inspection; Caliper inspection and lubrication; ABS system check.

Manual and power steering, steering linkage types, steering gears. Basic suspension types, Effect on stability and control. Power steering fluid check and refill; steering linkage and tie rod inspection; Shock absorber/strut replacement; Suspension bush and spring inspection; Wheel alignment and balancing.

Tyre construction, Tyre size and markings, Tyre condition and wear, Load rating and retreading rules. Tire rotation and balancing, Wheel alignment, Tire pressure check and inflation, Tire replacement and inspection for wear/damage.

Electrical & Electronic Systems: Battery construction, working principle and construction of alternator, and starter motor. Battery inspection, cleaning, and replacement; Alternator and starter motor check; Lighting system check (headlamps, indicators, brake lights); Fuses and relays check; ECU and sensor diagnostics; Wiring harness fault tracing; ECU fault codes (OBD).

4. Engine servicing

IC engine terminology, Engine classifications, main engine components, engine performance parameters, Petrol and diesel engines (basic working), CNG, LPG systems (safety awareness), Engine number identification, purpose of Clutch, types of clutches, clutch operating mechanisms, need for gearbox, types of gearboxes, (manual types & automatic types), final drive and differential, transaxles, Power transmission path to wheels. Bharat Stage (BS) emission standards, Catalytic converter, EGR, DPF, SCR (concept level), PUC relevance.

Engine Overhaul & Major Repairs: Engine dismantling, inspection, and reassembly; Measurement of clearances (piston, bearing, valve); Cylinder head servicing (valves, seats, guides); Timing setting and calibration after overhaul. Spark plug replacement (petrol) / glow plug check (diesel); Timing belt/chain inspection and replacement; Engine coolant/antifreeze replacement; Throttle body cleaning; Engine tune-up.

Radiator inspection and cleaning; Coolant replacement; Thermostat check; AC system service (refrigerant top-up, filter change, compressor check); Heater core and blower inspection. Fuel pump and injector cleaning; Fuel line inspection; Exhaust system inspection (muffler, catalytic converter, pipes); Emission system checks (O2 sensor, EGR valve).

Advanced Fuel & Injection Systems: Diesel fuel injection systems (CRDI basics); Injector testing, calibration principles; Fuel pump timing and pressure checks; Emission control devices (EGR, DPF – basic understanding). BS-VI norms (practical impact on maintenance); Hybrid and electric vehicle basics; Battery safety and high-voltage precautions.

5. Advanced Vehicle Diagnostics

Diagnostic scanners, Digital Multimeter, Oscilloscope (automotive application), Smoke machine, Battery analyzer & charging system tester, Pass-thru devices. Structure of OBD-II codes, Generic vs manufacturer-specific codes, Freeze frame & live data interpretation, Pending vs confirmed faults, clearing codes vs fault rectification.

Engine Diagnostics (Petrol & Diesel): Fuel system diagnosis, Ignition system diagnosis, Air intake & exhaust diagnostics, Misfire detection, Sensor rationality checks, Emission system diagnostics.

Written Examination Syllabus for **Stores Officer** – Transport Department, J&K

SECTION A: BASICS OF MECHANICAL AND ELECTRICAL ENGINEERING

1. **Mechanics and Hydraulics:** Force, work, power, and energy (vehicle motion); laws of motion, Torque and rotational motion (engine & wheels). Simple machines, law of machine. Basics of Friction, laws of friction (brakes, clutch, tyres); Types of gears, Gear ratio; gear speed, torque and power relationship. Hydraulics, Properties of fluids, Pressure, Pascal's law and its applications; types of hydraulic pumps Hydraulic systems (brakes, clutch).
2. **Basic Thermodynamics:** thermodynamic systems, system properties, Heat, temperature, types of thermodynamic processes, laws of thermodynamics, Heat engine principle; Two-stroke and four-stroke cycle; basics of thermodynamic cycles; Otto cycle and Diesel cycle (basic idea); principles and components of Cooling and lubrication systems. Modes of Heat transfer (cooling system, Automotive A/C).
3. **Materials Science:** classification of engineering materials, Ferrous and non-ferrous metals, mechanical properties of materials; stress strain curve; Rubber, plastics, composites in vehicles; basics of Heat treatments (hardening, tempering etc.). Corrosion and rust prevention, automotive materials.
4. **Electricity & Electronics:** Electric current, effects of current, voltage, resistance; Ohm's law; Series and parallel circuits; types of automotive batteries, working principle and construction of lead acid battery; working principle and components of alternator and starter motor; Fuses, relays, switches; Sensors and actuators used in automobiles. Circuit breakers, Ballast resistor, Stripping wire insulation, cable colour codes and sizes, Resistors in Series circuits, Parallel circuits and Series-parallel circuits, Electrostatic effects, Capacitors and its applications.
5. **Automobile Mechanics:** Displacement, stroke & bore; compression ratio; piston speed; brake power and torque; longitudinal and lateral weight distribution; centre of gravity; g-force and weight transfer; stability of vehicles on level and banked curved roads.

SECTION B: AUTOMOTIVE TECHNOLOGY

1. **Automobile Powertrain:** Basic vehicle layout (FR, RR, FF, RWD, AWD, 4WD). Classification of automobiles. IC engine terminology, Engine classifications, main engine components, engine performance parameters, Petrol and diesel engines (basic working), CNG, LPG systems, Engine number identification. Air and water cooling, cooling system components. Ignition system and its components. Fuel supply system

of electronically controlled petrol and diesel engines. Bharat Stage (BS) emission standards, Catalytic converter, EGR, DPF, SCR (concept level), PUC relevance. Purpose of Clutch, components of clutch, types of clutches, clutch operating mechanisms, need for gearbox, types of gearboxes, (manual types & automatic types), U-Joints, propeller shaft, final drive and differential, transaxles, Power transmission path to wheels.

2. **Running gear:** Physics of braking, Hydraulic and air brakes, Disc and drum brakes, Parking brake, ABS, steering system components, Manual and power steering, Suspension system components, suspension types, Tyre construction, Tyre size and markings.
3. **Vehicle Body & Electrical Systems:** Vehicle Body dimensions, car Body types & construction, monocoque or chassis-mounted body, nomenclature of car body panels. Headlamps, tail lamps, brake lamps, indicators, reflectors, mirrors. Horn and warning devices. Battery parts and operation. Starter devices, starting system components. Charging system components, construction of alternator and starter motor. Theory of automotive AC systems, components of AC system.
4. **New vehicle technologies:** Conventional vs hybrid vs electric vehicles, basic architecture of Electric vehicles, types of EVs. Architecture of Hybrid Vehicles, levels of hybridization, ADAS and its levels.

SECTION C: STORE MANAGEMENT

1. **Store Management Principles:** Receipt, storage, and issue of automobile spares; Bin card system and stock registers; FIFO / LIFO methods (preferably FIFO for spares & lubricants); proper labeling and identification of parts.
2. **Inventory Control:** Minimum, maximum, and reorder levels; Fast-moving, slow-moving, and non-moving items; Periodic stock verification and reconciliation; Prevention of over-stocking and shortages.
3. **Procurement & Purchase Procedure:** Indent processing from workshops; Tendering, quotations, e-procurement (GeM / e-Auction basics); Technical specifications of spares; Rate contracts and supply orders.
4. **Inspection & Quality Control:** Physical inspection of received spares; Verification with purchase orders and invoices; Rejection of substandard / duplicate parts; Warranty and guarantee clauses.
5. **Documentation & Records:** Goods Receipt Notes (GRN); Issue vouchers / demand slips; Stock ledgers and consumption statements; Condemnation and disposal records. Basic knowledge of bills, invoices, and payments; Budget heads and expenditure control; Audit compliance and stock audit procedures; Loss, shortage, and write-off procedures.
6. **Safety Practices:** Safe storage of lubricants, batteries, tyres, and inflammables; Fire safety and environmental norms; Proper stacking and housekeeping.

Annexure "H"

Marks: 120
Time: 02 Hours

Written Examination Syllabus for **Upholster** – Transport Department, J&K

1. Introduction to sewing technology

Basics of Sewing in Automotive Upholstery, Purpose of stitching in seat covers, roof lining, door pads, armrests; Types of seams used in vehicle interiors; Importance of strength, durability, and appearance.

2. Sewing tools & Equipment

Sewing tools: Measuring Tools, Drafting Tools, Marking Tools, Cutting Tools, Sewing Tools, Finishing Tools. Sewing Machines Used in Upholstery: Single-needle industrial sewing machine; Double-needle sewing machine; Walking-foot (compound feed) machine; Overlock / edge binding machine; Button and zipper attachment machines. Machine attachments and accessories. Machine Parts & Functions: Needle, presser foot, feed dog, bobbin, shuttle; Thread tension mechanism; Stitch length and reverse lever; Speed control (clutch motor / servo motor).

3. Needles, threads and materials

Hand stitches and needles –Size & types; Types & Applications of hand stitches. Types of needles for leather, vinyl, fabric; Needle sizes and selection as per material thickness; Thread types: polyester, nylon; Thread thickness and strength requirements. Brief idea about fibers, Selection of Needle and thread according to fabric types; Broken Needle Policy Fabric Preparation for cutting; Fabric Grain, Selvage, Shrinkage; Types of Seat cover fabrics: leather, polyester, neoprene, velour, and canvass.

4. Stitches, seams and construction details

Types of Stitches & Seams: Lock stitch; Chain stitch; Top stitch (decorative and reinforcement); Plain seam, French seam, piping seam; Reinforced seams for seat stress areas. Classification, Uses, Properties of Seams, Seam finishes Sewing Aids, Presser foots, Folders, Guides. Hems: Types and Uses; Corner Makings, Types and Uses; Casing, Introduction and Use; Edge Finishing, Facings, Bindings, Pippings; Plackets; Pockets, Types and Design variations; Mending: Darning and Patching.

5. Upholstery Fabrication

Cutting & Stitching Techniques: Pattern marking and alignment; Seam allowance; Straight, curved, and corner stitching; Joining foam, fabric, and leather layers.

Upholstery sewing methods: Cut-and-sew method, Foam-backed fabric method, Hog ring and Velcro attachment methods, Quilting and decorative stitching.

6. Automotive upholstery

Measuring seats and panels. Matching stitching with seat contours. Allowance for stretching and shrinkage. Seat cover stitching methods. Door trim and roof lining sewing. Headrest, armrest, and boot covers.

7. Upholstery Maintenance

Types of fabric damage: Seam failure; Fabric/leather tears; Burns, cuts, abrasions; Foam collapse and deformation; sagging roof lining. Patch repair techniques: Fabric patching, Vinyl repair, Leather repair (back patching).

Needle replacement, Safe operation practices. Routine cleaning and lubrication, Needle and thread issues, Preventive maintenance.

