

GOVERNMENT OF JAMMU AND KASHMIR,
SERVICES SELECTION BOARD,
Zum Zum Hotel, Rambagh, Srinagar

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(www.jkssb.nic.in)

"DRAFTSMAN (MECHANICAL)"

SYLLABUS FOR WRITTEN TEST

Marks:-150

Time :- 2.30 Hours

- Importance of safety and general precautions observed in the Instt. and in the section. Importance of trade in the development of Industrial Economy of the Country. Related Instruction. Recreational, medical facilities & other extracurricular activities of the Instt. (All necessary guidance to be provided to the new working of Industrial Training Institute system including stores procedures etc. 03 Marks
- Nomenclature. Description and use of drawing instruments & various equipment in drawing office. Their care and maintenance, lay out of a drawing sheet. 03 Marks
- Type of lettering proportion and spacing of letter and words 02 Marks
- Terms & definitions-polygons and circles. Lines and their meaning, section lines of different materials, conventional signs, symbols & abbreviations, hatching, & shading, Norms of dimensioning different types of drawing sheets. 02 Marks
- Definition of ellipse, parabola, hyperbola, different methods of their construction, Definition and method of drawing involutes cycloid curves, helix and spiral. 03 Marks
- Planes and their normal, projections, projection and orthographic projection, first angle and Third angle projection. 03 Marks
- Concept about Horizontal & Vertical Plane. 02 Marks
- Principle of orthographic Projection, projection of solids like prism, cones, pyramids and frustums in various position. 02 Marks
- Solution of problems to find out the true shape of surfaces when solids are cut by different cutting planes. 02 Marks

- Construction of different types of scales, their appropriate uses, principle of R.F. diagonal & vernier. 02 Marks
- Importance of free hand sketching, machine drawing. Material and equipment required in Sketching. 02 Marks
- Importance of sectional views. Types of Sectional views & their uses. Parts not shown in Section. 02 Marks
- Definition of Intersection & interpenetration curves. Common methods to find out the curve of interpenetration. 02 Marks
- Solution of problems on interpenetration of prism, cones, and pyramids with their axes intersecting at an angle. Intersection of cylinder. 02 Marks
- Theory of projection as specified in SP - 46-1938. 02 Marks
- Definition of development, its need in industry and different method of developing the surface. 02 Marks
- Principle of Isometric projection, Difference between isometric drawing and isometric projection. Isometric Scale, Dimensions in isometric drawing. 03 Marks
- Different methods of drawing Isometric views. 02 Marks
- Principle and types of oblique projection. Advantage of oblique projection over isometric projection. 03 Marks
- Types of perspective projection fundamental concept & definition, location of station point. 03 Marks
- Terminology- feature, functional feature, functional dimension, datum dimension, principle. 02 Marks
- Units of dimensioning, system of dimensioning, method of dimensioning and common features limit, fit, tolerance. 02 Marks
- Tolerances dimensioning, geometrical tolerance. Indication of symbols for machining and surface finishes on drg. (Grades and micron values). 02 Marks
- Screw thread, terms and nomenclature, type of screw thread, proportion and their uses, Thread conventions. 02 Marks
- Types of bolts and nuts their proportions, uses, different types of locking devices. 02 Marks
- Different types of machine screws cap screws and their specifications. Different types of foundation bolts. 02 Marks
- Purpose, terms different types keys(Heavy duty and light duty) and proportions use of cotter, pins and circlips. 02 Marks

- Types of fastening materials, types of rivets, their proportion & uses. Types of riveted joints, terms & proportions or riveted joints. Conventional representation. 02 Marks
- Causes of failure of riveted joints, efficiency of riveted joints 02 Marks
- Description of welded joints and their representation (Actual and symbolic) Indication of welding symbols on drawings as per BIS. 04 Marks
- Description and use of drafting machine. Different sizes of drawing sheets as per BIS 02 Marks
- Safety precaution descriptions uses and care o hand tools including contraction rule. Brief description of production of cast iron, wrought iron steel and alloy steel. 02 Marks
- Safety precautions, Hand tools used for moulding. The description, use and care of hand tools. Description of different types of moulding. Description of different types of core, sand, and dressing material, Description of cupola. 02 Marks
- Description of measuring tools and hand tools used in forge work. Description and use of the mechanical hammer. Colour coding of different metals and identification. 04 Marks
- Description and application of simple measuring tools, description of parts of lathe & its accessories. 03 Marks
- Method of using precision measuring instrument such as inside & outside micrometers, depth gauges, vernier, calipers dial indicator, slip gauges, sine bars, universal bevel protractor etc. 04 Marks
- Brief description of milling, shaping, slotting and planing machines, quick return mechanism of these machines. 04 Marks
- Name and brief description of common equipment necessary for sheet metal work. Different type and uses of joints employed in sheet metal work. 03 Marks
- AC & DC Motors, Generators of common types and their uses. Names and brie description of common equipment necessary for sheet metal work. 04 Marks
- Type of Ferro-printing papers. Specification of Sensitized. Ammonia papas-Expiry-precautions in Ammonia Printing. 03 Marks

- Introduction to computer-DoS, windows and to AUTO CAD. related theory. 02 Marks
- Procedure of inking a drawing conventional colours used for different metals as per ISI material an equipment for colouring procedure. 02 Marks
- Procedure of tracing on tracing cloth and specification of tracing cloth. 02 Marks
- Types of assembly drawing. Different types of detailed drawings and preparation of bill of materials. 03 Marks
- Use of bearing, types of bearing and materials used. 03 Marks
- Difference between frictional and antifriction bearing. Advantages of antifriction bearing over frictional bearing. Materials and proportion of parts for drawing purposes. 03 Marks
- Heat treatment of steel. 03 Marks
- Shadelines & their use on machine drawings. Conventional method for drawings shade lines, surface shading by means of lines. 03 Marks
- Piping materials and specifications of WI & Steel pipes, pipe threads pipe fittings, specifications of fittings. 02 Marks
- Different types of pipe joints. 02 Marks
- Use of gears in transmission of power. Different types of gears. Cast gears and machined gears. Use of odontograph for drawing profile of gears etc. 02 Marks
- Brief description of Petrol, Diesel and Gas engines. 02 Marks
- Brief description, working principle and function of hydraulic jack, press accumulator, ram etc. 01 Marks
- Different locating methods clamping devices. 01 Marks
- Lay out of machine foundations. Brief treatment of the principal involved and the precautions to be observed, Lay out of machine foundation. 01 Marks
- Related theories of press tool with tolerance. 01 Marks
- Working of Blow off cock and simple carburetor. 02 Marks
- Numbering of drawings and standard parts > Familiarization with BIS.698 02 Marks
- Production of interchangeable parts, fits limits, tolerance & familiarisation with IS -919 & IS 2709 . Different methods of showing machine surfaces on drawings. 02 Marks

- Familiarisation with-
- (Drg Board), IS-1360, IS-13609T-Sqr), IS-696(code of Engg. Drg).
02 Marks
- Belts-Power transmitted by belts. Materials of belts slip and creep velocity of Belt. Arc of contact, simple exercise in calculations of belts speed, no's of Belt needed in V-belt drive, law of belt. Crowing of pulley, velocity ratio.
05 Marks
- Necessity of coupling. Types uses and proportion of different types of coupling. Material used for coupling
02 Marks
- Use of cam in industry. Types of cam, kinds of motion, displacement diagrams.
02 Marks

**(S.A Raina)KAS,
Secretary,
J&K Services Selection Board,
Srinagar.**