

v) Gallantry award winners of the Armed Forces including personnel of Territorial Army;

(vi) Ex-recruits boarded out or relieved on medical ground and granted medical disability pension.

#### EXPLANATION II:

The persons serving in the Armed Forces of the Union, who on retirement from service, would come under the category of "Ex-Serviceman" may be permitted to apply for re-employment one year before the completion of the specified terms of engagement and avail themselves of all concessions available to Ex-Servicemen but shall not be permitted to leave the uniform until they complete the specified term of engagement in the Armed Forces of the Union.

**NOTE V:** Age concession is not admissible to sons, daughters and dependents of Ex-servicemen. **Therefore, such candidates should not indicate their category as Ex-servicemen.**

#### SELECTION PROCESS:

##### A) PATTERN OF ONLINE TEST

The online test will comprise of Phase-I and Phase-II exams.

i) The online exam of Phase-I shall be common irrespective of the post. The test structure for Phase I Online exam is as follow:-

Sr. No	Name of the Test	No. of Qs.	Max. Marks	Duration (minutes)	Version
1	English Language	30	30	20 minutes	English
2	Reasoning Ability	35	35	20 minutes	Bilingual
3	Numerical Aptitude	35	35	20 minutes	Bilingual
		100	100	60 minutes	

**NOTE: -** In the Phase-I of online test, the test will be Objective type (Multiple Choice Questions). Each question will carry equal 01 (one) mark. For each wrong answer, there will be negative marking of one-fourth (1/4) of the mark assigned to that question. If a question is left blank, i.e. no answer is marked by the candidate; there will be no negative marking for that question. The marks obtained in Phase-I will not be reckoned in final merit ranking.

ii) Phase-II online exam will comprise of:-

Number of Papers in Phase II		Post code	Post	Note
One Paper Exam	Paper I only	F	AG-III (General)	
		I	AG-III (Depot)	
	Paper III only	E	Typist (Hindi)	

	<b>Paper V only</b>	C	Steno Grade-II	
<b>Two Paper Exam</b>	<b>Paper I and Paper II</b>	A	{JUNIOR ENGINEER (CIVIL ENGINEERING)}	Candidates applying for any ONE of the post code A, B, G and H will appear in Paper-I to be followed by Paper-II. ONLINE TEST for Paper - I & Paper – II shall be held in single sitting only
		B	JUNIOR ENGINEER (ELECTRICAL MECHANICAL ENGINEERING)	
		G	{AG-III (Accounts)}	
		H	{AG-III (Technical)}	
	<b>Paper III and Paper IV</b>	D	{AG II (Hindi)}	Candidates applying for Post code D will appear in Paper-III to be followed by Paper-IV. ONLINE TEST for Paper - III & Paper-IV shall be held in single sitting only
Note: 1) Paper-I is common for post code A, B, F, G, H and I. 2) Paper-III is common for post code D and E.				

**NOTE: -**

<b>Paper Type</b>	<b>Number of questions and Marks</b>	<b>Negative marking</b>
Paper – I, Paper – III and Paper-V	120 Multiple Choice Questions will carry equal 01 marks. Paper will carry maximum 120 marks	Candidate should note that there will be negative marking of one fourth of the mark assigned to a question in Phase –II. If a question is left blank, i.e. no answer is marked by the candidate; there will be no negative marking for that question.
Post specific Paper-II (in phase II)	60 Multiple Choice Questions each carrying 02 marks. Paper will carry maximum 120 marks.	
Paper – IV (Subjective)	Two questions each carrying 60 marks. Paper will carry maximum 120 marks.	No negative marking

**Paper-I (Duration-90 Minutes):**

120 Multiple Choice Questions of **General Aptitude consisting of Reasoning/General Intelligence, English Language, Computer Proficiency, General Awareness, Current Events, Data Analysis/Numerical Ability/Data Interpretation** for the Post Code A {Junior Engineer (Civil Engineering)}, B {Junior Engineer (Electrical Mechanical Engineering)}, F {AG-III (General)}, G {AG-III (Accounts)}, H{AG - III (Technical)} & I { AG-III (Depot)}.

**Paper-II (Duration-60 minutes) :**

- 60 Multiple Choice Questions on Civil Engineering, Electrical Engineering and Mechanical Engineering for Candidates applying for the Post Code A {Junior Engineer (Civil Engineering)}, Post Code B {Junior Engineer (Electrical Mechanical Engineering)}, to assess the post specific technical knowledge of relevant stream.

- ii. 60 Multiple Choice Questions on Commerce particularly General Accounting and Finance for candidates applying for the Post Code G {Assistant Grade-III (Accounts)} to assess the post specific technical knowledge of relevant stream.
- iii. 60 Multiple Choice Questions on Agriculture, Botany and Zoology (Group-A) or Agriculture, Chemistry and Physics (Group-B) for candidates applying for the Post Code H {Assistant Grade-III (Technical)} to assess the post specific technical knowledge of relevant stream.

**The detailed syllabus for specified technical posts for Paper-II to assess the post specific technical knowledge of relevant stream is as under:**

**a. Junior Engineer (Civil Engineering) (Post Code A):**

**Building Materials:** Physical and Chemical properties building stones, cement (Portland), Asbestos products, Timber and Wood based Products, laminates, bituminous materials, paints, varnishes etc.

**Surveying:** Principles of surveying, plane table surveying, theodolite, leveling and contouring, curvature, permanent adjustment of dumpy level, methods of contouring, tachometric survey etc.

**Soil Mechanics:** void ratio, porosity, saturation, water content, specific gravity of soil grains and unit weights, grain size, Atterberg's limits, soil classification, plasticity chart, permeability, consolidation of soils. Lab tests, moisture content, bearing capacity of soils, plate load test, standard penetration test etc.

**Estimating, Costing and Valuation:** Estimate, analysis of rates, earthwork, Brick , RCC work shuttering, Painting, Flooring, Plastering flexible pavements, Tube well, isolates and combined footings, Steel Truss, Piles etc.

**Transportation Engineering:** Types of pavements, pavement materials – aggregates and bitumen, Design of flexible and rigid pavements, bituminous construction, rigid pavement joint, pavement maintenance, Railway Engineering.

**Environmental Engineering:** Quality of water, purification, distribution, sanitation, sewerage and sewage treatments.

**Structural Engineering:** Theory of structures, bending moment and shear force diagrams retaining walls, eccentric loads, slope deflection, critical load and columns, torsion etc.

**Concrete Technology:** Latest technology and uses of concrete, water cement ratio, workability, mix design, placement, compaction, finishing and curing of concrete, quality control of concrete, repair and maintenance of concrete structure etc.

**RCC Designs:** RCC flexural strength, shear strength, bond strength, design of single reinforced beams, retaining walls, water tanks (RCC design questions may be based on both Limit State method and Working Stress method).

**Steel Design:** Steel design and construction of steel columns, beams, roof trusses, plate girders.

**Construction Management:** Construction scheduling Bar Chart, CPM and PERT etc.

**b. Junior Engineer (Electrical Mechanical Engineering) (Post Code B):**

Basic concepts, Concepts of current, voltage, power, energy and their units, Circuit law, AC Fundamentals, Measurement and measuring instruments, Electrical Machines, Synchronous Machines, Generation, Transmission and Distribution of power in different power stations, Estimation and costing, Utilization of Electrical Energy, Basic Electronics, Theory of Machines and Machine Design, Engineering Mechanics and Strength of Materials, Thermal Engineering, Air standard Cycles for IC engines, Rankine cycle of steam, Air Compressors & their cycles, Boilers Refrigeration cycles, Production Engineering.

**c. Assistant Grade-III (Accounts) (Post Code G):**

1. Basic Accounting concept including preparation of books of accounts.
2. Taxation including Income Tax and Goods and Services Tax.
3. Auditing: - (a) Auditing concepts and methods, (b) Internal & External audit of companies.
4. Commercial Laws:- (Basic Knowledge) (a) Basics of Contract Act, (b) Basics of Company Act, (c) Basics of Sales of Goods Act, (d) Negotiable Instrument Act
5. Basic of Computers: (a) Operating System, (b) Browsers, (c) Email, (d) Memory (Internal, External, portable), (e) Chats, (f) Office (Word, PowerPoint, Excel), (g) Networks

**d. Assistant Grade-III (Technical) (Post Code H)**

**Agriculture:-** Statics of Indian Agriculture (Cereals & Pulses), Elementary entomology, Plant Protection, Agricultural Economics.

**Botany:-** Cell Biology :Tissue , Organ & Organ System, Genetics, Plant Classification, Diversity, Ecology, Life Process: Photosynthesis, Respiration , Circulation, Movement etc, Basics of Biochemistry.

**Zoology:-** Animal Cell & Tissue, Organ System, Heredity & Variation, Animal Classification, Micro Organism, Insects & Rodents.

**Chemistry:-** Chemical bonding, Organic Chemistry : Basics of alkanes, alkenes, alkynes, alcohols, aldehydes and acids, Inorganic Chemistry , Chemistry in daily life.

**Physics:-** Measurements, Basic Physics, Light, Electricity.

The above syllabus for **Agriculture, Botany, Zoology, Chemistry and Physics** is grouped into following two categories:

**GROUP A- Agriculture, Botany and Zoology.**

**GROUP B- Agriculture, Chemistry and Physics.**

At the time of filling up of the online application form, the candidate applying for the post of AG-III (Tech) shall have to select any one of the above groups for online examination Paper-II i.e. either Group-A or Group-B in which he/she wishes to appear in the examination. The option once exercised shall be final and no further changes will be allowed under any circumstances.

**Paper-III (Duration-90 minutes)**

120 Multiple Choice Questions on General Hindi, General English, General Awareness, General Intelligence and Computer Knowledge for candidates applying for Post Code D {Assistant Grade-II (Hindi)}, and Post Code E {Typist (Hindi)}.

**Paper-IV (Duration-90 minutes) (Subjective Test):**

Translation - 2 Passages, one each from Hindi to English and vice-versa or candidates applying for the Post Code D {Assistant Grade-II (Hindi)}. Each Question will carry 60 marks and the maximum marks for the Paper-IV would be 120. This online test will be subjective type.

Paper-IV for the post of Assistant Grade-II (Hindi) which shall be descriptive in nature, would be conducted online and for appearing in Paper-IV, candidate should be able to use following keyboard layouts:

1. Inscript
2. Remington (GAIL)

**Paper-V (Duration-90 minutes):**

120 Multiple Choice Questions on General English, General Awareness, General Intelligence and Computer Knowledge (with specific reference to MS Word and Internet) for candidates applying for the Post Code C {Steno. Grade-II}.

**Note-**

- i. **Marks obtained in Phase-I online exam will not be reckoned for final merit list. The candidates fifteen times the number of vacancies advertised shall be called for Phase-II examination.**
- ii. The merit of **online** Test for Post Code F and I will be decided on the basis of marks secured in Paper -I **of Phase-II**
- iii. For post code A, B, G and H, the merit will be decided on the basis of combined marks secured in Paper - I & post specific Paper – II of Phase-II.
- iv. Candidates applying for AG-II (Hindi) (Post code-D) will need to take paper III & IV in Phase II. Final selection will be on the basis of combined marks secured by the candidates in both Paper – III and Paper- IV.
- v. Candidates applying for the Post of Typist (Hindi) (Post code-E) will need to take Paper - III in Phase II for Online Test. The final merit for the post of Typist (Hindi) will be decided on the basis of marks secured in Paper-III, subject to qualifying the Skill Test.
- vi. Candidates applying for the Post of Steno. Grade-II (Post code-C) will need to take Paper - V in Phase II for Online Test. The final merit for the post of Steno. Grade-II will be decided on the basis of marks secured in Paper-V, subject to qualifying the Skill Test.
- vii. **All papers in the online examination will be of objective type multiple choice questions only except paper IV for AG-II (Hindi) which will be of subjective type.**
- viii. Online Test will be bilingual i.e. in English and Hindi except for language papers
- ix. **GUIDELINES FOR PERSONS WITH DISABILITIES USING A SCRIBE**
  - a. In accordance with Government of India, Ministry of Social Justice & Empowerment, Department of Empowerment of Persons with Disabilities (Divyangjan) O.M. No. 34- 02/2015-DD-III dated 29th August, 2018 on the subject - Guidelines for conducting written examination for Persons with Benchmark Disabilities, the PwBD candidates eligible for Scribe/ Reader/ Lab Assistant has discretion of opting for his own Scribe/Reader/Lab Assistant or request the Examination body for the same.