PUBLIC SERVICE COMMISSION, WEST BENGAL

West Bengal Forest Service and West Bengal Subordinate Forest Service Examination, 2018

SCHEME AND SYLLABUS

A. **Scheme and Syllabus for Preliminary Examination** :

The Preliminary Examination will consist of only one paper of "**General Studies and Arithmetic**". The question paper will be of an objective type consisting of 200 multiple choice questions. The paper will carry 200 marks and will be of 2½ hours duration. The standard of the paper will be of the level of knowledge as expected of a graduate of a recognized Indian University or Institute. The paper will include questions covering the following fields of knowledge :

(i)	English Composition	…	…	20 marks,
(ii)	General Science	…	…	25 marks,
(iii)	Current Events of National and International Importance	…	…	25 marks,
(iv)	History of India	…	…	25 marks
(v)	World Geography	…	…	25 marks,
(vi)	Indian Polity and Economy	…	…	20 marks,
(vii)	Indian National Movement	…	…	20 marks,
(viii)	General Mental Ability	…	…	20 marks,
(ix)	Arithmetic	…	…	20 marks,

NOTE I :- The Preliminary examination is meant to serve as a screening test only for the purpose of selection of candidates for the Main examination. The marks obtained in this examination by the candidates will not be considered for Final Selection. Only those candidates who will be declared qualified at the Preliminary examination in a year will be eligible for admission to the West Bengal Forest Service (Main) and West Bengal Subordinate Forest Service (Main) Examination of that year.

NOTE II :- The Commission shall have the discretion to fix the qualifying marks in the examination.

B. **SCHEME OF THE MAIN EXAMINATION** :

Written examination :

The written examination shall be held in two Groups-

(a) Compulsory Subjects; (b) Optional Subjects

(a) Compulsory Subjects :

There shall be three compulsory subjects as stated below :-

Paper - I : English Essay, Precis Writing and Composition;
Paper - II : Bengali/Hindi/Urdu/Nepali /Santhali(Essay, Precis Writing and Composition);
Paper - III: General Studies

(b) Optional Subject (s) :

Candidates shall take up any two subjects*****(for WBFS) / one subject (for WBSFS) from the following list of subjects :-

i) Agriculture, ii) Botany, iii) Chemistry, iv) Computer Application / Computer Science

v) Engineering (Agricultural, Chemical, Civil, Computer, Electrical, Electronics, Mechanical)
vi) Forestry, vii) Geology, viii) Horticulture, ix) Mathematics, x) Physics, xi) Statistics, xii) Veterinary Science, xiii) Zoology and xiv) Environmental Science,

* Consult restriction of choice of Optional Subjects (for WBFS candidates only)

(c) Syllabi for the examination in above subjects will be broadly as follows:-

AGRICULTURE

Agriculture Botany (Plant cytology, genetics, breeding and physiology, morphology of crop plants).

Agriculture Entomology and Plant Pathology.

Agriculture Chemistry and Soil Science .

BOTANY

Physiology, Plant Geography and dispersal of Plants, Morphology, Anatomy, Embryology and taxonomy of Angiosperm, Plant Pathology, Evolution , Cytology, Genetics and Plant Breeding, Economic Botany, Origin and Importance of Cultivated plants

CHEMISTRY

Physical and Organic (including Photochemistry), Inorganic and Industrial.

COMPUTER SCIENCE/COMPUTER APPLICATION

Digital computer fundamental, Discrete mathematics, Numerical methods, Resource management techniques, Operating system, Data and file structures, C programming, Object oriented programming, Relation data base management system. MC and Assembly language programming, System software,, Design and analysis of algorithms, Computer system architecture, PC maintenance and trouble shooting, Software engineering, Computer networks, Computer graphics, Visual programming, Internet and Java programming.

AGRICULTURAL ENGINEERING

Soil and Water Conservation , Investigation and planning in River Valley Projects, Irrigation and drainage., Building materials, Farm power and machinery, Electricity and rural electrification power generation and transmission.

CHEMICAL ENGINEERING

Transport phenomena (Under steady State condition), Thermodynamics, Reaction Engineering, Transportation, Materials, Instrumentation and Process control.

CIVIL ENGINEERING

Building materials and properties and strength of materials, Structural Engineering, Building-construction, water supply and sanitary engineering, Roads and bridges.

COMPUTER ENGINEERING

Number system, Data representation, Programming, Elements of high level programming language PASCAL/C, Use of data structure, Fundamental of computer architecture, Processor design, Control unit design, Memory organisation, System organisation, Microprocessors, Architecture and instruction set of microprocessors, Assembly language programming, Microprocessors based system design, Personal computers and their typical use.

MECHANICAL ENGINEERING

Strength of Materials, Applied Thermodynamics, Theory of machine and Machine Designs, Production Engineering, Fluid mechanics and Water power.

ELECTRICAL ENGINEERING

Network Statics, Magnetics, Measurement, Electronics, Electrical Machines Control systems, Industrial Electronics, Electrical Machines (Heavy Current), Synchronous Machines, Special Machines, Power Systems and Protection, Utilizations, Economic and other aspects of different systems of rail, traction, Communication System (light current), Microwaves, D.C. Amplifiers.

ELECTRONICS ENGINEERING

Physical Electronics, Electronics Circuits, Operational Amplifiers and Analog computers, Control System, Digital Electronics, Instrumentation and Measurement, Principles of Communication, Electromagnetic fields and Antennas, Microprocessor fundamentals. ,

FORESTRY

Silviculture – General, Silviculture – systems, Silviculture of trees, Agroforestry, Social Forestry, Joint Forest Management and Tribology Forest Soil, Soil Conservation and Watershed management, Environmental Conservation and Biodiversity (including pollution), Tree Improvement and

seed Technology, Forest Management and Management Systems, Forest Working Plan, Forest Mensuration and Remote Sensing, Survey and Forest Engineering, Forest Ecology, Ethno Botany, Forest Resources Utilization, Forest Protection and Wildlife Biology, Forest Economics and Legislation.

GEOLOGY

General Geology, Structural Geology and Geotectonic, Stratigraphy, Paleontology, Crystallography and Mineralogy, Petrology Economic Geology.

HORTICULTURE

Principals of fruit and vegetable production, Principles of Horticulture, Post harvest technology of Horticulture crop, plant propagation and Nursery Management, Regulation of growth and bearing in fruit crop, Production technology of tropical, sub-tropical and temperate fruit crop, Production technology of vegetable, tuber, plantation, spice, ornamentals, medicinal, aromatic and indoor plants, Breeding of vegetable crops, Garden design, Nursery layout and management, Elementary Statistics, Experimental design and computer application.

MATHEMATICS

Algebra, Analytical Geometry of Two and Three Dimensions, Vector Algebra and Vector Calculus, Differential Calculus, Integral Calculus, Differential Equation, Linear Programming, Probability and Statistics, Statics and Dynamics, Hydrostatics.

PHYSICS

Mechanics of a single particle, Mechanics of a system of particles, Properties of deformable bodies, Properties of liquids and gases, waves and Oscillations. Electro-acoustics Ultrasonic. Heat Transmission by Conduction, Convection and Radiation. First and Second Laws of Thermodynamics, Entropy, Classical Statistics, Bose-Einstein and Fermi-Dirac Statistics, Electrostatic and Magneto-static Field. Direct Current Circuits. Electro-magnetic induction. Alternative Current Circuits. Optical Phenomena of Interference, diffraction and polarization. Fundamentals of Atomic and Nuclear Physics. X-ray and Radioactivity. Semi-conductor Physics. Electronics Principles of Radio and Television.

STATISTICS

Probability, Descriptive Statistics, Numerical, Mathematical Analysis, Theoretical Statistics, Elementary Theory of Estimation, Elementary Theory of Testing Hypothesis, Economic Statistics, Vital Statistics, Application of Statistics of Agriculture, Quality Control, Sample Survey, Official Statistics.

VETERINARY SCIENCE

Gross anatomy I, II and III, Veterinary Physiology I, II, III and IV. General Veterinary Biochemistry. Biostatistics and computer application, General Livestock Management. Fodder production and grassland management. Sociology and principles of veterinary and A.H. Extension, Physiological chemistry. Introduction to Molecular Biology and Biotechnology. Principles of Genetics and Population Genetics. Animal Housing Sanitation. Livestock Economics, Marketing and Business Management. Histology and Embryology, Principles of Animal nutrition and Breeding (includes avian), evaluation of feed staff and feed technology. General veterinary parasitology, microbiology and pathology. Applied anatomy, Applied nutrition I, II, Veterinary helminthology, Bacteriology, Protozoology, Epidemiology and Mycology, Immunology and Serology, Systemic pathology, Livestock breeding system, General and CNS pharmacology, entomology and aracology, Special Pathology I, II, milk and hygiene and public health, swine or equine or camel, yak production and management, wild and zoo animal health care and management, fish production, Lab animal or rabbit or fur animal care and management and pet animal care, Autonomic and systemic pharmacology, Veterinary and systemic virology, special pathology I and II, Cattle or buffalo or sheep or goat and avian production and management, Milk and Meat and their product technology, abattoir practice and animal by-product technology, clinical bio-chemistry, chemotherapy, zoonosis and human health, environmental hygiene, general surgery and anasthesia, extension techniques, toxicology, gynaecology and obstretrics, regional and clinical surgery, clinical and preventive veterinary medicine, andrology and artificial insemination, lab diagnosis and ambulatory clinics.

ZOOLOGY

Invertebrata, outline knowledge of social insects and elementary ,knowledge of sericulture, Chordata- pisces, Amphibia, Reptilia, Aves and Mamalia, Elementary knowledge of Fisheries, Cytogenetics, Embryology and Histology. Laws Heredity, Linkage and crossing over, Sex-linked inheritance and sex determination and Mutation, Evolution, Adaptation, Ecology, Fertilization, Pathenogenesis, Cleavage and Formation of three germinal layers in rabbit, Development of eye, heart, brain and kidney in chick.

ENVIRONMENTAL SCIENCE

Fundamentals of Environment, Nature and Natural process, Ecosystem, Population and Environment, Land and water use of Earth, Air Pollution, Energy sources, Environment and Public Health, Waste Management, Environmental policies.

(The Standard of the Syllabus of these subjects shall be that of Bachelor's Degree in Science Or Engineering of recognized Indian University or Institute).

NOTE - I : Each of the compulsory subject will carry 100 marks and examination will be of 3 (three) hours duration. Each optional subject will have two papers carrying 100 marks each and examination will be of 3 (three) hours duration for each paper.

NOTE - II : Restriction on choice of Optional Subjects (for WBFS only) :-
No candidate shall be allowed to take more than one subject from the following groups:

i) Agriculture , Agricultural Engineering and Veterinary Science;
ii) Chemistry and Chemical Engineering;
iii) Computer Application , Computer Science and Computer Engineering;
iv) Electrical Engineering and Electronics Engineering;
v) Mathematics and Statistics.

d) PERSONALITY TEST :

There shall be a Personality Test carrying 200 marks for the W.B. Forest Service and 100 marks for the W.B. Sub-ordinate Forest Service..A number of candidates to be selected in order of merit on the results of the Main Examination (Written) for the service will have to appear for the Personality Test. Each candidate will be asked questions on matters of general interest. The purpose of the test will be to assess the personal qualities of the candidate, e.g. alertness of mind, power of clear and logical exposition, intellectual and moral integrity, leadership and also the range of interest of the candidate.

ABSTRACT TABLE OF PAPERS/SUBJECTS AND MARKS FOR MAIN EXAMINATION AND PERSONALITY TEST :

A. Compulsory Subjects	West Bengal Forest Service		West Bengal Subordinate Forest Service	
	No. of Papers	Marks	No. of Papers	Marks
1. English	One	100	One	100
1. Bengali/Hindi/ Urdu/Nepali/ Santhali	One	100	One	100
3. General Studies	One	100	One	100
B. Optional Subjects				
1. Subject I	Two	200	Two	200
2. Subject II	Two	200	-----	----
C. Personality Test	-----	200	-----	100
Total marks…	**-----**	**900**	**-----**	**600**

NOTE - I : The Commission shall have the discretion to fix qualifying marks in any paper or all papers and in the aggregate.

NOTE – II : If a candidate fails to secure qualifying marks in any paper / subjects, the marks in that paper/ subject will not be considered in calculating his/her aggregate.

****