

HIMACHAL PRADESH PUBLIC SERVICE COMMISSION.

INSTRUCTIONS TO THE CANDIDATES FOR THE POSTS OF SCIENTIFIC OFFICER (DNA) CLASS-II (GAZETTED) ON CONTRACT BASIS IN THE DEPARTMENT OF HOME ADVERTISED VIDE ADVT. NO. 03/2015 DATED 01-07-2015.

1. On the basis of claim furnished by you in your application form, you have been provisionally admitted to appear in the Screening Test for the post(s) of Scientific Officer (DNA) Class-II (Gazetted) on contract basis in the Department of Home and your candidature is liable to be cancelled if you are found to be ineligible for the post(s) at any stage of the selection process or thereafter.
2. Your candidature will be cancelled if you do not possess the Essential Qualification i.e.
 - i) M. Sc 2nd Class in Molecular Biology/Human Biology/ Human Genetics / Bio-Technology / Microbiology / Forensic Science/ Physical Anthropology / Bio-Chemistry or equivalent from a recognized university with evidence of specialization in DNA analysis/ Profiling or its equivalent from a recognized University.
 - .00ii) Three years post M. Sc experience in research training and analytical work in one of the above or allied subject. (Research work done for doing Ph.D. degree shall be counted in total experience).
3. Your admission to the Screening Test is purely provisional.
4. Your eligibility in terms of Essential Qualification and experience etc. shall be reckoned as on the last date for receipt of application i.e. 30-07-2015.
5. Onus of proving that you are eligible for the concerned post lies upon you only. If the date of notification/declaration of result is not indicated in the certificate /degree/marks list, the date of issue of certificate/degree/marks list shall be deemed as date of acquiring essential qualification.
6. THE SCREENING TEST WILL BE OF 02 HOURS DURATION CONSISTING OF 100 MULTIPLE CHOICE QUESTIONS.

1. History and Development of Forensic Science, Definition of Forensic Science, Need of Forensic Science, Basic Principles of Forensic Science (Law of Individuality, Principle of exchange, Law of probability). Biological evidence: Importance, nature, location, collection and evaluation. Forensic significance of body fluids as blood, semen, saliva, sweat, milk and urine, their collection and identification. Preparation of solutions, buffers, use of buffers in DNA analysis. Concept of Normality, Molarity, Molality and their calculations.	30 questions of 30 marks
2. Electrophoresis Theory and General Principles, Various factors affecting electrophoresis, Low and High Voltage electrophoresis, Horizontal and Vertical Electrophoresis. Various electrophoresis techniques- Immuno-electrophoresis, Native PAGE, Sodium dodecyl sulphate (SDS-PAGE) polyacrylamide gel electrophoresis, Iso-electric focusing (IEF), Capillary electrophoresis-Theory and basic principles, Instrumentation, Forensic applications. DNA Profiling: Introduction, History of DNA Typing, human genetics, mitosis, meiosis, heredity, alleles, mutations and population genetics, Hardy Weinberg law, molecular biology of DNA, variations, polymorphism, RFLP analysis, PCR amplifications, VNTRs, STRs, Mitochondrial DNA, SNPs, Sampling in forensic DNA analysis, DNA, Multiplex PCR, STR Markers used in Forensic DNA analysis, Commercially available STR Kits, Stutter products, non-template addition, microvariants, null alleles and mutation rates, issue of degraded DNA, PCR inhibition, contamination, mixed samples and low copy number. Use of SNPs and other bi-allelic markers in forensic DNA analysis. Y-STR based testing. Non-human DNA testing and microbial forensics. Use of Capillary electrophoresis in forensic DNA profiling, validated capillary electrophoresis platforms for forensic DNA, fluorescent labeling in multiplex kits, fluorescent detection. Instrumentation for forensic STR typing, ABI 310,3100,3130,3500 etc. STR genotyping issue.	50 questions of 50 marks

Evaluation of results, frequency estimate calculations, interpretations, allele frequency determination, match probability, DNA data bases CODIS, GenBank etc. STR population data base analysis, likelihood ratios, source attribution, analysis mixed DNA profiles, kinship and parentage testing, probability of paternity etc. DNA analysis in mass disasters.	
3. General Knowledge (National & International level)	10 questions of 10 marks
4. General Knowledge of H.P.	10 question of 10 marks

7. You are advised to reach the examination centre on the date, 30 minutes before the commencement of the Screening Test. You will not be allowed to enter the examination Hall 10 minutes after the commencement of the Screening Test and will not be allowed to leave the Examination Hall till the expiry of full time.
8. You are advised to write/encode the OMR (answer sheet) with black/blue ball pen irrespective of the instructions contained on the answer sheet, if any.
9. You should bring your admission letter cum identity card in the examination centre. The candidate should paste latest passport size photograph duly attested/ self attested in case the scanned photograph is not appearing in the Candidate's Attendance sheet. No candidate will be allowed/entertained without photograph.
10. Please mention your category in the answer sheet as already claimed by you in your application form as well as shown on your admit card. Category once claimed at the time of application will not be allowed to be changed.
11. No. T.A. /D.A. will be paid for appearing in the Screening Test.
12. The answer key of this screening test shall be displayed on the official website of the Commission after freezing the answer sheets. The objections, if any, received within seven days will only be entertained.

NOTE:- CANDIDATES ARE STRICTLY PROHIBITED TO BRING CELLULAR PHONES/ELECTRONIC GADGETS IN THE EXAMINATION HALL.
