नेपाल सरकार
नेपाल कृषि अनुसन्धान परिषद्
पदपूर्ति समिति

प्राविधिक अधिकृत, टि-६ (T-6) पद/तहको खुला तथा आन्तरिक प्रतियोगितात्मक लिखित परीक्षाको पाठ्यक्रम एवं परीक्षा योजना

यस पाठ्यक्रम योजनालाई दुई चरणमा विभाजन गरिएको छ ।

प्रथम चरणः लिखित परीक्षा (Written Examination) पूर्णाङ्कः २००
द्वितीय चरणः अन्तरवार्ता (Interview) पूर्णाङ्कः ३०

१. प्रथम चरण (First Phase): लिखित परीक्षा (Written Examination) पूर्णाङ्कः २००

Paper	Subject	Full Mark	Pass Mark	No. of Questions (Q) x Mark (M) = Total Marks	Time Allowed
I	Agriculture Research development	100	40	50 Q x 2 M = 100 (MCQs)	45 Minutes
II	Technical Subject (Related Sub-Group)	100	40	8 Q x 5 M = 40 (Short Answer) 6 Q x 10 M = 60 (Long Answer)	3.00 Hours

२. द्वितीय चरण (Second Phase): Interview पूर्णाङ्कः ३०

Subject	Full Marks	System
Interview	30	Oral

द्रष्टव्यः

१. यो पाठ्यक्रम योजनालाई प्रथम चरणमा लिखित परीक्षा र द्वितीय चरणमा अन्तरवार्ता परीक्षा गरी दुई चरणमा विभाजन गरिएकोछ ।
२. लिखित परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी अथवा नेपाली र अंग्रेजी दुबै हुन सक्ने छ ।
३. समान पद/तहको Part I को विषयवस्तु सबै उपसमूहको लागि पाठ्यक्रम एउटै भएको कारण एकिकृत परीक्षा सञ्चालन हुनेछ ।
४. प्रथम र द्वितीय पत्रको लिखित परीक्षा छुट्टाछुट्टै हुनेछ ।
५. बस्तुगत बहुवैकल्पिक (Multiple Choice) प्रश्नहरुको गलत उत्तर दिएमा प्रत्येक गलत उत्तर बापत २० प्रतिशत अंक कट्टा गरिनेछ । तर उत्तर नदिएमा त्यस बापत अंक दिइने छैन र अंक कट्टा पनि गरिने छैन ।
६. बहुवैकल्पिक प्रश्नहरु हुने परीक्षामा कुनै प्रकारको विद्युतीय उपकरण तथा क्याल्कुलेटर (Calculator) प्रयोग गर्न पाइने छैन ।
७. बस्तुगत बहुबैकल्पिक प्रश्न (MCQs) को लागि एक उत्तरपुस्तिका हुनेछ । विषयगत प्रश्नका हकमा दुई वटा उत्तरपुस्तिकाहरु हुनेछन् ।
८ प्रत्येक खण्डका लागि छुट्टाछुट्टै उत्तरपुस्तिकाहरु हुनेछन् । परीक्षार्थीले प्रत्येक खण्डका प्रश्नहरुको उत्तर सोही खण्डको उत्तरपुस्तिकामा मात्र लेख्नु पर्नेछ ।
९. यस पाठ्यक्रम योजना अन्तर्गतका पत्र/विषयका विषयबस्तुमा जेसुकै लेखिएको भएतापनि पाठ्यक्रममा परेका कानून, ऐन, नियम, विनियम तथा नीतिहरु परीक्षाको मिति भन्दा ३ महिना अगाडि (संशोधन भएका वा संशोधन भई हटाइएका वा थप गरी संशोधन भई) कायम रहेकालाई यस पाठ्यक्रममा परेको सम्झनु पर्दछ ।
१०. प्रथम चरणको लिखित परीक्षाबाट छनौट भएका उम्मेदवारहरुलाई मात्र द्वितीय चरणको अन्तरवार्तामा सम्मिलित गराइने छ ।
११. प्रथम चरणको लिखित परीक्षाबाट छनौट भएका उम्मेदवारको प्राप्ताङ्क र द्वितीय चरणको अन्तरवार्तामा प्राप्त गरेको अंक जोडी योग्यताक्रम अनुसार सिफारिस गरिनेछ ।
१२. पाठ्यक्रम लागू मितिः
१३. यस भन्दा अगाडि लागू भएको पाठ्यक्रम खारेज गरिएको छ ।

नेपाल सरकार
नेपाल कृषि अनुसन्धान परिषद्
पदपूर्ति समिति

प्राविधिक अधिकृत, टि-६ (Technical Officer, T-6), सबै उपसमूहको खुल्ला प्रतियोगितात्मक लिखित परीक्षाको लागि पाठ्यक्रम

Paper-I

Agricultural Research and Development
(Common For all Sub-Groups)

1. Constitution of Nepal: Food, agriculture and natural resources related
2. Current National Agricultural policies and plans: National Agriculture Policy, Agricultural biodiversity policy, Climate change policy, Agriculture Development Strategy (ADS), National land use Policy, Seed vision, periodic agriculture development plan
3. NARC Act, NARC bylaws, Structure and responsibilities of Nepal Agricultural Research Council (NARC)
4. International Agricultural Research Organizations - CGIAR and IARCS: CIAT, CIMMYT, CIP, ICRISAT, ICARDA, World Fish, ICRAP, IFPRI, IITA, ILRI, Bioversity international, IRRI, IWMI, AVRDC, ICIMOD, IFDC, IFAD, FAO
5. Geography and Agro-climate condition of Nepal
6. History of Agriculture Development in Nepal
7. Agriculture Extension System in Nepal in the past and present scenario
8. Global warming, Climate Change and its effects in Agriculture sector
9. Major functions, achievements and impact of agriculture research, extension and education in Nepal
10. Agriculture research and development: History, achievements, constraints and scope
11. Agricultural statistics: production, productivity, import/export trend of major agricultural commodities
12. Use and missuse of insecticide and pesticide in agriculture sector

नेपाल सरकार
नेपाल कृषि अनुसन्धान परिषद्
पदपूर्ति समिति

प्राविधिक अधिकृत टि-६, (Technical Officer, T-6), वायोस्टयाटिस्टिक्स/वायोमेट्रिक्स उपसमूहको खुल्ला प्रतियोगितात्मक लिखित परीक्षाको लागि पाठ्यक्रम

Paper: I

Technical Subject
Sub-Group: Biostatistics/Biometrics

1. **Introduction**
   - 1.1 Basic concepts of statistics
   - 1.2 Statistics and biometrics
   - 1.3 Role of biometrics in agricultural research
   - 1.4 Measurement scales
   - 1.5 Variable/ observation and attribute
   - 1.6 Population and sample

2. **Classification and Summarization of Data**
   - 2.1 Data collection
   - 2.2 Frequency distribution
   - 2.3 Diagram and graphs

3. **Descriptive Statistical Measures**
   - 3.1 Measures of central tendency
   - 3.2 Measures of dispersion
   - 3.3 Measures of skewness and kurtosis

4. **Probability and Distribution**
   - 4.1 Elementary probability and probability theory
   - 4.2 Normal distribution
   - 4.3 Binomial distribution

5. **Sampling and Sampling Distribution**
   - 5.1 Concept of sampling, sampling error and non sampling error
   - 5.2 Simple random sampling, cluster, stratified and systematic sampling
   - 5.3 Sampling distribution of mean and proportion
   - 5.4 Standard error and concept of central limit theorem

6. **Estimation and Testing of Hypothesis**
   - 6.1 Point estimation and their properties
   - 6.2 Confidence interval estimation and its interpretation in different scenario
   - 6.3 Hypothesis testing
   - 6.4 Null and alternative hypothesis
   - 6.5 Type I and type II error in testing of hypothesis
   - 6.6 Critical region, level of significance, power of the test
   - 6.7 One and two tailed tests
   - 6.8 Degrees of freedom
   - 6.9 Testing of hypothesis in different scenario

6.10 Critical value approach and p-value approach for decision making in testing of hypothesis

7. Parametric Tests

7.1 Z-test
7.2 Independent t-test
7.3 Paired t-test
7.4 F test for test of significance of variance and means
7.5 Applications of different parametric tests in agriculture data

8. Non-parametric Tests

8.1 Chi-square test,
8.2 Mann Whitney U-test
8.3 Wilcoxon's Signrank test
8.4 Kruskwallis test
8.5 Applications of different nonparametric tests in agriculture data

9. Correlation

9.1 Simple linear correlation
9.2 Rank correlation
9.3 Test of significance of correlation coefficient

10. Regression

10.1 Simple linear regression
10.2 Multiple linear regression
10.3 Test of hypothesis for regression coefficient and overall fit of the model
10.4 Assumptions of linear regression and applications
10.5 Use and misuse of correlation and regression analysis

11. Experimental Design

11.1 Basic concepts of statistical models and use of samples
11.2 Concepts of experimental design, factorial experiments
11.3 Principles and techniques of planning, establishing and executing field and greenhouse experiments
11.4 Completely randomized design
11.5 Randomized complete block design
11.6 Latin square design
11.7 Lattice design
11.8 Factorial experiments
11.9 Split-plot design
11.10 Experiment in farmers' fields
11.11 Assumptions and applications

12. Special Application of Statistics

12.1 Statistics in genetics and plant breeding
12.2 Statistics in livestock and fishery
12.3 Statistics in social science

13. **Understanding of biometrical software**

14. **Concept of research design, research methods and research methodology**

15. **Field Plot Technique**
    - 15.1 Size, shape and orientation of plots
    - 15.2 Border and competition effects
    - 15.3 Soil heterogeneity
    - 15.4 Estimation of size of experiments for specified accuracy
    - 15.5 Sub-sampling plots and yields for laboratory analysis

16. **Interpretation of statistical results and report writing**

17. **Statistical system of Nepal and databases focusing on agriculture research and development**

***
*