

लोक सेवा आयोग
नेपाल विविध सेवा, राजपत्राङ्कित तृतीय श्रेणी, टेक्सटाइल इन्जिनियर पदको खुला र आन्तरिक प्रतियोगितात्मक
लिखित परीक्षाको पाठ्यक्रम

पाठ्यक्रमको रूपरेखा :- यस पाठ्यक्रमको आधारमा निम्नानुसार दुई चरणमा परीक्षा लिइने छ :
प्रथम चरण :- लिखित परीक्षा पूर्णाङ्क :- २००
द्वितीय चरण :- सामूहिक परीक्षण र अन्तर्वार्ता पूर्णाङ्क :- ४०

प्रथम चरण – लिखित परीक्षा योजना (Examination Scheme)

पत्र	विषय	पूर्णाङ्क	उत्तीर्णाङ्क	परीक्षा प्रणाली	प्रश्न संख्या X अङ्कभार	समय
प्रथम	टेक्सटाइल इन्जिनियरिङ्ग	१००	४०	वस्तुगत बहुवैकल्पिक (MCQs)	१०० X १ = १००	१ घण्टा १५ मिनेट
द्वितीय	सम्बन्धी	१००	४०	विषयगत (Subjective)	१० X १० = १००	३ घण्टा

द्वितीय चरण

विषय	पूर्णाङ्क	परीक्षा प्रणाली	समय
सामूहिक परीक्षण (Group Test)	१०	सामूहिक छलफल (Group Discussion)	३० मिनेट
व्यक्तिगत अन्तर्वार्ता	३०	मौखिक	-

- लिखित परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी अथवा नेपाली र अंग्रेजी दुवै हुन सक्नेछ ।
- पाठ्यक्रमको प्रथम र द्वितीय पत्रको विषयवस्तु एउटै हुनेछ ।
- प्रथम र द्वितीय पत्रको लिखित परीक्षा छुट्टाछुट्टै हुनेछ ।
- प्रथम तथा द्वितीय पत्रका एकाईहरूको प्रश्नसंख्या निम्नानुसार हुनेछ :

प्रथम पत्रका एकाई	1	2	3	4	5	6	7	8	9	10
प्रश्न संख्या	10	10	10	10	20	20			20	
द्वितीय पत्रका खण्ड	A			B		C			D	
द्वितीय पत्रका एकाई	1	2	3	4	5	6	7	8	9	10
प्रश्न संख्या	1	1	1	1	2	2			2	

- वस्तुगत बहुवैकल्पिक (Multiple Choice) प्रश्नहरूको गलत उत्तर दिएमा प्रत्येक गलत उत्तर बापत २० प्रतिशत अङ्क कट्टा गरिनेछ । तर उत्तर नदिएमा त्यस बापत अङ्क दिइने छैन र अङ्क कट्टा पनि गरिने छैन ।
- बहुवैकल्पिक प्रश्नहरू हुने परीक्षामा कुनै प्रकारको क्याल्कुलेटर (Calculator) प्रयोग गर्न पाइने छैन ।
- विषयगत प्रश्नका लागि तोकिएका १० अङ्कका प्रश्नहरूको हकमा १० अङ्कको एउटा लामो प्रश्न वा एउटै प्रश्नका दुई वा दुई भन्दा बढी भाग (Two or more parts of a single question) वा एउटा प्रश्न अन्तर्गत दुई वा बढी टिप्पणीहरू (Short notes) सोध्न सकिने छ ।
- द्वितीय पत्रमा प्रत्येक खण्डका लागि छुट्टाछुट्टै उत्तरपुस्तिकाहरू हुनेछन् । परीक्षार्थीले प्रत्येक खण्डका प्रश्नहरूको उत्तर सोही खण्डको उत्तरपुस्तिकामा लेख्नुपर्नेछ ।
- यस पाठ्यक्रम योजना अन्तर्गतका पत्र/विषयका विषयवस्तुमा जेसुकै लेखिएको भए तापनि पाठ्यक्रममा परेका कानून, ऐन, नियम तथा नीतिहरू परीक्षाको मिति भन्दा ३ महिना अगाडि (संशोधन भएका वा संशोधन भई हटाईएका वा थप गरी संशोधन भई) कायम रहेकालाई यस पाठ्यक्रममा परेको सम्झनु पर्दछ ।

१०. यस भन्दा अगाडि लागू भएको माथि उल्लिखित समूहको पाठ्यक्रम खारेज गरिएको छ ।

११. पाठ्यक्रम लागू मिति :- २०६८/०९/१४ (२०७२/०७/२४ को निर्णय अनुसार सामूहिक परीक्षण समावेश)

लोक सेवा आयोग
नेपाल विविध सेवा, राजपत्राङ्कित तृतीय श्रेणी, टेक्सटाइल इन्जिनियर पदको खुला र आन्तरिक प्रतियोगितात्मक
लिखित परीक्षाको पाठ्यक्रम

प्रथम र द्वितीय पत्र :- टेक्सटाइल इन्जिनियरिङ्ग सम्बन्धी

Section A- 30 Marks

1. Textile in general

- 1.1 Terminology relating to textile
- 1.2 Fiber production, spinning, weaving, dyeing, printing and finishing
- 1.3 Metric units of measurement and their conversion to other system of units

2. Textile Fibers

- 2.1 Fiber classification
- 2.2 Method of identification of textile fibers
- 2.3 Properties of textile fibers
- 2.4 Uses of textile fibers

3. Yarn production

- 3.1 Types of yarns and their classification
- 3.2 Different kinds of yarn processing systems
- 3.3 New methods of yarn manufacturing
- 3.4 Process flow of spinning process and their functions
- 3.5 Properties of yarn
- 3.6 Spinning machineries

Section B- 30 Marks

4. Fabric Production

- 4.1 Types of fabric, classification and definition
- 4.2 Methods of fabric production (Woven, Knitted and Non-woven)
- 4.3 Production process of fabric and their function
- 4.4 Properties of fabric
- 4.5 Fabric production machineries
- 4.6 Fabric structure and design
- 4.7 Defects in fabric

5. Dyeing, Printing and Finishing

- 5.1 Classification and application of dyestuffs
- 5.2 Preparation of fabric for dyeing/printing (Sizing, de-sizing, scouring, bleaching, mercerization)
- 5.3 Dyeing Methods and machineries
- 5.4 Testing of dyed textile materials
- 5.5 Identification of different kinds of dyestuffs
- 5.6 Printing methods and machineries
- 5.7 Finishing method and machineries
- 5.8 Special finishes
- 5.9 Chemicals used in dyeing, printing and finishing
- 5.10 Color theory and its application on textiles

Section C- 20 Marks

6. Testing of Textile Materials

- 6.1 Testing of Fiber
- 6.2 Testing of Yarn
- 6.3 Testing of Fabric dimension and properties
- 6.4 Fastness testing of fabric (Washing, rubbing, light and Perspiration).

7. Standardization and quality control

- 7.1 Basic concept
- 7.2 Importance of standardization for textile materials
- 7.3 Quality control activities in textile industries
- 7.4 Basic concept of ISO 9000 (Quality Management System)
- 7.5 Statistical quality control
- 7.6 Calibration of equipments

8. Industrial Environment

- 8.1 Major Pollution in textile industries
- 8.2 Environmental performance and evaluation
- 8.3 Treatment of different types of waste generated from textile industries
- 8.4 Basic concept of Cleaner Production (Waste minimization)
- 8.5 Occupation Health and Safety measure in textile industries
- 8.6 Basic Concept of Environmental Management System EMS ISO 14001.
- 8.7 Eco-labeling for textile product and processes.
- 8.8 Industrial production, lay out, planning and design

Section D – 20 Marks

9. Legislation

- 9.1 Industrial Policy 2067
- 9.2 Industrial Enterprise Act, 2049
- 9.3 Industrial Enterprise Regulation, 2067
- 9.4 Foreign Investment and Technology Transfer Act, 2049
- 9.5 Nepal Standard (Certification. Mark) Act, 2037
- 9.6 Nepal Standard (Certification Mark) Regulation, 2040
- 9.7 Standard weights and measurements Act, 2025
- 9.8 Standard weights and measurements Regulation 2027
- 9.9 Environment Protection Act 2053
- 9.10 Environment Protection Rules 2054

10. Textile Industries in Nepal

- 10.1 Past and current status of textile industries in Nepal
- 10.2 Contribution of Nepalese textile industries (Carpet, Pashmina, Woolen garments, readymade garments etc.) in national economy
- 10.3 Nepalese Industry associations related to manufacturing and trading of textile products
- 10.4 Industrial statistics
- 10.5 Export potential of Nepalese textile products including garments and carpets

---The End---

First Paper: - Sample Questions

1. The only warp yarn is dyed in which fabric?
a. Twill b. **Denim** c. Satin d. All
Correct Ans. (b)
2. Which of the following is not natural fiber?
a. Coir b. Hemp c. **Dacron** d. Sisal
Correct Ans. (c)
3. Which of the following is correct?
a. Tex= 9 Denier, b. Tex = 8 Denier, c. Tex = 6 Denier d. Tex = 4 Denier
Correct Ans. (a)
4. Which among the following is not a type of warp knitting?
a. Crochet b. Raschel c. Rib d. Simplex
Correct Ans. (c)
5. Combing process is used for which fiber to get fine quality of yarn?
a. Polyester b. Acrylic c. Acetate d. Cotton
Correct Ans. (d)
6. Disperse dye is used for dyeing of which fiber?
a. Polyester b. Cotton c. Wool d. Silk
Correct Ans. (a)
7. Which dye is not soluble in water in its original form?
a. Reactive Dye b. Vat dye c. Direct Dye d. Basic dye
Correct Ans. (b)
8. What is English count (N) of cotton yarn having weight one pound and length 16,800 yard?
a. 80 b. 40 c. 30 d. 20
Correct Ans. (d)
9. Which of the following is basic concept of cleaner production?
a. Waste minimization b. Productivity enhancement
c. Reduction in raw material consumption d. **All**
10. As per Industrial Policy 2067, the small industry will have the maximum of fixed capital up to?
a. 30 million b. 40 million c. 50 million d. 60 million
Correct Ans. (c)

Second Paper: - Sample Questions

1. Define the following terms: (2x5)
 - a) Tex
 - b) Denier
 - c) Twill
 - d) Sliver
 - e) Combing
2. What is the difference between natural and synthetic fiber. Give 5 examples of natural and synthetic fiber each. (5+5)
3. Make the production flow chart for ring spinning system of yarn manufacturing with key control points. (5+5)
4. Define woven, knitted and non woven fabric. Describe key functions in a projectile/missile loom during weaving. (6+4)
5. Write the name of five dyes used for cotton dyeing. Describe the dyeing process in brief of any two dyes for cotton. (2+4+4)
6. Describe about one mechanical and one chemical finishes applied in a cotton fabric. (5+5)
7. Describe in brief 5 key properties each of yarn and woven fabric for testing. (5+5)
8. What is ISO 9001? Is it applicable in Textile Industry? Give your justification. (5+5)
9. Describe the key factors to be considered during designing a spinning Industry. (10)
10. Write any 5 provisions as stated in Environment Protection Regulation 2054 related to a manufacturing industry like textile. (2x5)