

द्वितीय पत्र (Paper II): Technical Subject

Section A- 30 Marks

- 1. Ores, ore-dressing, concentration and conversion**
 - 1.1 General understanding of availability of various ores in Nepal
 - 1.2 Various ore-dressing and concentration operations – Froth Flootation, Gravity separation, Magnetic separation and criteria of their selection
 - 1.3 Objective, principle and process of calcining and roasting with example
 - 1.4 Principle, purpose and process of smelting with example
 - 1.5 Fire-refining and electrolytic refining of metal
 - 1.6 Ores of copper, Zinc, Lead, Tin, Silver, Aluminum and Iron
- 2. Extractive Metallurgy**
 - 2.1 Physico-chemical principles of Extractive Metallurgy
 - 2.2 Principle and process of Pyro-metallurgical technique as applied to copper, zinc, lead extraction
 - 2.3 Principle and process of Hydor-metallurgical technique as applied to noble metal-Gold, Silver.
 - 2.4 Principle and process of Electro-metallurgical technique as applied to Aluminum extraction

Section B- 20 Marks

- 3. Foundry Technology**
 - 3.1 Introduction of casting process
 - 3.2 Purpose and process of casting
 - 3.3 Pattern design and core-making
 - 3.4 Properties of moulding sand
 - 3.5 Advantage and limitations of sand casting
 - 3.6 Common casting Defects and remedial methods
 - 3.7 Principle, process and utility of die-casting and Centrifugal casting
 - 3.8 Process description, merits and demerits of investment casting or Lost wax casting
 - 3.9 Use of grey cast iron and white cast iron

Section C- 20 Marks

- 4. Testing of metals and alloys**
 - 4.1 Stress-strain diagram, proof stress, yield strength, tensile strength and percentage elongation with reference to mild steel
 - 4.2 Purpose and process of creep, impact and fatigue strength test
 - 4.3 Hardness, hardenability and hardness testing methods-Brinell, Rockwell, Vickers
 - 4.4 Various non –destructive testing methods and their utility

Section D- 30 Marks

5. Standardization, quality management and environment management and laboratory accreditation

- 5.1 Concept, principles, aim and level of standardization
- 5.2 Types of standards
- 5.3 National standard development process of Nepal
- 5.4 Concept and need of quality management system
- 5.5 Principles of quality management systems
- 5.6 ISO 9001 standard and its element
- 5.7 Concept and need of environmental management system
- 5.8 ISO 14001 standards and its elements
- 5.9 Concept and need of laboratory accreditation

6. ऐन नियमहरू

- 6.1 वातावरण संरक्षण ऐन
- 6.2 वातावरण संरक्षण नियमावली
- 6.3 नेपाल गुणस्तर प्रमाण चिन्ह ऐन, २०३७
- 6.4 नेपाल गुणस्तर प्रमाण चिन्ह नियमावली, २०४०
- 6.5 स्ट्यान्डर्ड नाप र तौल ऐन, २०२५
- 6.6 स्ट्यान्डर्ड नाप र तौल नियमावली, २०२७
- 6.7 निजामती सेवा ऐन
- 6.8 निजामती सेवा नियमावली
- 6.9 उपभोक्ता संरक्षण ऐन
- 6.10 उपभोक्ता संरक्षण नियमावली
- 6.11 खाद्य ऐन, २०२३
- 6.12 खाद्य नियमावली, २०२७

लोक सेवा आयोग
नेपाल इन्जिनियरिङ्ग सेवा, मेटालर्जिकल इन्जिनियरिङ्ग समूह, राजपत्रांकित तृतीय श्रेणीका पदको खुला
प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

प्रथम चरणको लिखित परीक्षाबाट छनौट भएका उम्मेदवारहरूलाई मात्र
लिइने सामूहिक परीक्षण (Group Test) को लागि

सामूहिक छलफल (Group Discussion)

यस प्रयोजनको लागि गरिने परीक्षण १० पूर्णाङ्क र ३० मिनेट अवधिको हुनेछ जुन नेताविहिन सामूहिक छलफल (Leaderless Group Discussion) को रूपमा अवलम्बन गरिने छ । दिइएको प्रश्न वा Topic का विषयमा पालैपालोसँग निर्दिष्ट समयभित्र समूहबीच छलफल गर्दै प्रत्येक उम्मेदवारले व्यक्तिगत प्रस्तुति (Individual Presentation) गर्नु पर्नेछ । यस परीक्षणमा मूल्याङ्कनको लागि देहाय अनुसारको ३ जनाको समिति रहनेछ ।

आयोगका अध्यक्ष वा सदस्य	-	अध्यक्ष
मनोविज्ञ	-	सदस्य
दक्ष/विज्ञ (१ जना)	-	सदस्य

सामूहिक छलफलमा दिइने नमूना प्रश्न वा Topic

उदाहरणको लागि - उर्जा संकट, गरीबी निवारण, स्वास्थ्य बीमा, खाद्य सुरक्षा, प्रतिभा पलायन जस्ता Topics मध्ये कुनै एक Topic मात्र दिइनेछ ।