

चिलिमे जलविद्युत कम्पनी लिमिटेड

प्राविधिक सेवा, मेकानिकल समूह, तह-५, सुपरभाईजर पदको
प्रतियोगितात्मक लिखित परीक्षाको पाठ्यक्रम

- शैक्षिक योग्यता: चिलिमे जलविद्युत कम्पनी लिमिटेड कर्मचारी सेवा शर्त विनियमावली २०७१ मा व्यवस्था भए अनुसार ।
- लिखित परीक्षाको बिषय, पूर्णाङ्क, परीक्षा प्रणाली, प्रश्न संख्या, अंकभार र समय निम्नानुसार हुनेछ ।

पत्र	विषय	परीक्षा प्रणाली	प्रश्न संख्या	प्रति प्रश्न अंकभार	पूर्णांक	समय
प्रथम	मेकानिकल ईन्जिनियरिङ्ग (I)	बस्तुगत बहुउत्तर	३०	१	३०	३० मिनेट
द्वितीय	मेकानिकल ईन्जिनियरिङ्ग (II)	बिषयगत	१०	५	५०	२ घण्टा

- बस्तुगत बहुउत्तर परीक्षा प्रणालीमा प्रत्येक पश्नका चार वटा सम्भाव्य उत्तर दिइने छ । प्रश्नको उत्तर लेख्दा केरमेट गरेको, दोहोरो लेखेको, सच्याएको, निर्दिष्ट स्थानभन्दा अन्यत्र लेखेको वा उत्तर नै सारेकोलाई गल्ती मानिनेछ ।
- प्रत्येक गलत उत्तर वापत सो प्रश्न वापत पाउने अंकको ०.२ (बीस प्रतिशत २०%) का दरले सो बिषयमा पाएको कूल प्राप्तंकबाट घटाईनेछ ।
- कालो/नीलो मसी मात्र भएको डटपेन/कलमले उत्तरको लागि निर्धारित कोठाका पश्नमा क,ख,ग,घ मध्ये एउटा मात्र सहि उत्तर स्पष्ट रूपले लेख्नुहोला । पेन्सिलले लेखेकोलाई मान्यता दिइने छैन ।
- प्रथम र द्वितीयपत्रको परीक्षा २ पटक गरेर हुनेछ । प्रथम पत्रको परीक्षा सकिएपछि द्वितीयपत्रको परीक्षा तत्काल हुनेछ ।
- द्वितीयपत्रको लिखित परीक्षाको माध्यम नेपाली वा अंग्रेजी भाषा हुनेछ ।

प्रथमपत्र र द्वितीयपत्रको पाठ्यक्रम

1. General

- Hydropower and thermal power stations and their Pros and cons.
- Firefighting equipment, safety tools and devices, their importance and proper use.

2. Fundamentals

- Properties of metals and non-metals.
- Difference between carbon steel and cast iron.
- Heat treatment: process, types and their effects in properties of metal.
- Laws of thermodynamics.
- Types of vibration and methods of damping vibration.
- Current, voltage, frequency, power, power factor and energy.
- Load factor, plant availability and reliability of a power station.
- Importance of earthing of electrical equipment.

3. Hydraulic, hydraulic machines, I.C. Engines and auxiliaries

- Hydro turbines: types and their selection with respect to head.
- Functions of turbine runner, wearing ring, guide vanes, nozzles, needle, deflector and deflector servometer, butterfly valve.
- Pump: types and their applications.
- Compressors: types and their uses.
- Bearings: types and their applications.
- Working of 2-stroke and 4-stroke internal combustion engines.
- Operating principle of spark ignition and compression ignition engines and their advantages and disadvantages.
- Power train of an automobile and construction equipment.
- Working of hydraulic brake system in automobile and hydraulic system in construction equipment.
- Application of turbochargers, heat exchangers, cooling towers, separators, purifiers and filters.
- Fuel: types and their properties.
- Lubricating oil: types and their properties.

4. Workshop practice

- Measuring tools and equipment: types and their applications.
- Welding: types and their applications.
- Advantages and limitations of arc welding and oxy-acetylene welding.
- Welding electrodes: types, application and care.
- Weld defects, causes, remedies and testing of weld defects.
- Non-destructive testing: types and their application.
- Machine tools used in mechanical workshop.
- Fits and tolerance: types and applications.

5. Operation and maintenance

- Types of various maintenance strategies.
- Operation and maintenance planning.
- General operation rule: assignment, fulfillment of duties, supervision, inspection and recording.
- Pre-requisite of starting of generator in hydro and thermal power station.
- Role of governors in hydro and thermal power stations, speed drop and other parameters.
- Importance of air conditioning and ventilation.
- Causes of cavitations, wear and pitting of runner and other parts and their possible remedies.
- Types of gates, hoist and their applications
- Trouble shooting in power plants

6. Institutional know-how

- General knowledge of Chilime Hydropower Company and its subsidiary companies, its organizational structure.