

प्रदेश लोक सेवा आयोग

बागमती प्रदेश

इन्जिनियरिङ सेवा, सिभिल समूह, सातौं तह, इन्जिनियर पदको खुला प्रतियोगितात्मक लिखित परीक्षा-२०७९
परीक्षा मिति: २०७९/१०/२१

पत्र: द्वितीय

विषय: सेवा सम्बन्धी

पूर्णाङ्क: १००

समय: ३ घण्टा

निम्न प्रश्नहरूको उत्तर Section अनुसार छुट्टाछुट्टै उत्तरपुस्तिकामा लेख्नु पर्नेछ, अन्यथा उत्तरपुस्तिका रद्द हुनेछ।

Section - A

[30 Marks]

1. What are the advantages of well foundation over the other foundations? [5]
2. Write short notes on methods and equipment of soil compaction in civil infrastructures construction. [5]
3. Nepal lies in earthquake prone zone and we have faced severe earthquake recently. So, what do you suggest in designing and construction of earthquake resisting building in urban areas? [10]
4. What do you mean by structural design of a bridge? List out the basic bridge components. Write down the stepwise procedure for the structural design of a RCC T-beam girder of 18 m length. [2+1+7]

Section - B

[25 Marks]

5. In hydropower sector, what is the power demand analysis and how is it carried out? [5]
6. What do you mean by recharge of ground water? Why is it needed? Explain different methods for recharge of ground water. [3+3+4]
7. What could be the best ideas to convert a farmer managed irrigation system to well-equipped efficient irrigation system with all essential structures. Elaborates with engineering solutions. [10]

Section - C

[25 Marks]

8. As per Nepal Road Standard, 2070 the administrative classifications of roads are of 4 types, what are they and shortly write down each type. [5]
9. What are the various factors to be considered in designing traffic islands? Briefly describe with figures, how the speed of vehicles is controlled by traffic islands at the intersection? [10]
10. What are the controlling factors for the selection of road alignment? And describe alignment selection criteria for hill road? [5+5]

Section - D

[20 Marks]

11. What do you understand by community mobilization in infrastructure projects? How can it be utilized effectively in construction, operation and maintenance of rural water supply projects? [10]
12. Bagmati river is highly polluted in the Kathmandu valley due to various factors but it becomes clean and pollution free after flowing several Kilometers down to the Terai region and its water is being used for the irrigation purpose. What is the name of such natural process and describe the process with oxygen sag curve? [10]