लोक सेवा आयोग

नेपाल इञ्जिनियरिङ्ग सेवा, सिभिल समूह, जनरल/हाइवे/हाइड्रोपावर/स्यानिटरी/इरिगेशन उपसमूह,
राजपत्राङ्कित तृतीय श्रेणी (प्राविधिक) पदको प्रतियोगितात्मक लिखित परीक्षा

206-192/195

समय :- ३ घण्टा | पत्र :- Second | पूर्णाङ्क :- १००

विषय:- Technical Subject

तलका प्रश्नहरुको उत्तर Section अनुसार बेग्लाबेग्लै उत्तरपुस्तिकामा लेख्नुपर्नेछ अन्यथा उत्तरपुस्तिका रद्द हुनेछ ।

Section -A

1. List out the rule of thumbs for RCC Buildings without masonry infill. (5)
2. Write short notes on factors affecting coefficient of permeability. (5)
3. Illustrate the types of slope failures with suitable sketches. A vertical cut is made in a clay deposit.
   [consider: c=30 KN/m^2, ϕ = 0, r = 16KN/m^3 Fc= 1.00 and Sn=0.261] (5+5=10)
4. List out and discuss the loads, forces and stresses which are to be considered in the designing of a road bridge. (10)

Section-B

5. List out the points to consider for locating a reservoir site of a hydropower project. (5)
6. What are common formulae used to calculate velocity of fluid in open channel? Explain manning's formulae with its uses. (10)
7. What are the common criteria for selecting the type of dam for a particular site condition? What are the advantages and disadvantages of selecting rock-filled dam? (10)

Section-C

8. What are the different causes of traffic accidents? Explain various measures that may be adopted to prevent accidents. (2+3=5)
9. What are the types of bituminous pavements? Explain briefly. Also mention the tests that are carried out in laboratory and field for the quality control of bitumen mixes. (10)
10. Describe briefly the history of civil aviation in Nepal. Point out the factors considering in the selection of airport location. List out the factors considered in the design of runways. (3+3+4=10)

Section-D

11. A water supply company has to purify the turbid water for a city whose daily demand is 200000 liters. Design a suitable plain sedimentation tank fitted with mechanical sludge remover. Assume the velocity of flow in the tank as 20 cm/minute and the detention time as 10 hours. (10)
12. Describe the sewage treatment process with a typical lay out of sewage treatment plant. (5+5=10)

~ The End ~