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Section B

Assignment No. of

Subject Geotechnical Lab

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①

Ques:- what is the standard proctor test and standard penetration test?

⇒ Standard proctor test depend on the following factors.

- Types of soils.
- Moisture content.
- Compactive effort.
- Dry density of the soil.

① For a given type of soil and compactive effort the dry density of a soil mass varies with moisture content.

② At low moisture content the internal friction and adhesion b/w the particles contribute to the resistance to compaction.

③ As the moisture content increase the particles develop moisture films around them which help in lubricating the particles thus increase the overall ability of the soil mass.

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⇒ Penetration test:-

It refers to stimulated Cyber attack that is being made to exploit the system at a certain point to detect the exploitable vulnerabilities concerned with the system security.

→ Once such a vulnerability found then it is used to exploit the system to gain access to the featured data.

→ This kind of testing comes under ethical hacking and the person

performing penetration test is known as ethical hacker.

→ The condition of a system is exploitable when there are multiple users granted with the use of a system with lesser security controls.

③

Ques → what is the classification of soil based on free swell index?

⇒ Swell Index → The free swell index is the increase in volume of soil without any external constraint when subjected to submerged in water.

| Free swell Index | Degree of expansiveness | L.L | P.L | S.L |
|------------------|-------------------------|--------|--------|-------|
| < 20 | low | 0-50 | 0-35% | > 17% |
| 20-35 | Moderate | 40-60% | 25-50% | 8-18% |
| 35-50 | High | 50-75% | 36-65% | 6-12% |
| > 50 | very high | > 60% | > 45% | < 10% |

(9)

⇒ why permeability test of the soil is important?

⇒ Permeability of soil:

The property of the soil to transmit water and air and is one of the most important qualities to consider for fish culture. A pond built in impermeable soil will lose little water through seepage.

→ Sand : 5.0

→ Clay loam : 0.8

→ Silty clay : 0.25

→ Clay : 0.05