



Enrolment No. \_\_\_\_\_

**HASMUKH GOSWAMI COLLEGE OF ENGINEERING, VAHELAL**

**MID SEMESTER EXAMINATION, SEPTEMBER-2016**

**Subject Code: 2130606**

**Date: 28/9/2016**

**Subject Name: GAG**

**Sem: 3<sup>RD</sup>**

**Time: 10:00 TO 10:50**

**Total Marks: 20**

**Instructions:**

- 1. Attempt all questions.**
- 2. Make suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**

**QUE.1 (A) Define: (1) Void Ratio(2) Specific Gravity(3) Plastic Limit 3**

**(B) Describe Soil as a three phase system. 3**

**QUE.2 (A) Derive The relationship between void ratio (e), specific gravity (G), water content (w) and degree of saturation (Sr). 3**

**(B) Enlist The scope of civil Engineering and describe any two in detail. 4**

**OR**

**(B) A sample of a wet soil has a weight of 360 N and a volume of 0.019m<sup>3</sup>. Upon drying out the soil in oven its weight reduce to 315 N. Calculate (a) void Ratio (b) water content (c) bulk unit weight (d) porosity (e) degree of saturation (f) dry unit weight. Take the specific gravity of soil (G) = 2.65. 4**

**QUE.3 (A) Describe type of soil water. 3**

**(B) A soil has a liquid limit of 33% and a plastic limit of 20%. Determine its toughness index if its flow index is 15%. Also find the liquidity index and relative consistency also. If it has a natural water content of 25%. 4**

**OR**

**(A) Identify the type of soil for given data. 3**

Soil A : liquid limit = 55%, plastic limit = 25%

Soil B : liquid limit = 21%, plastic limit = 15%.

**(B) List out the type of soil structure and describe any one. 4**

\*\*\*\*\* ALL THE BEST \*\*\*\*\*