

Semester Grade Performance Average (SGPA) & Cumulative Grade Performance Average (CGPA)

Engineering examination results are denoted as SGPA & CGPA. SGPA & CGPA are calculated based on credits & grades. Let us try to understand significance of these words. For this, please refer list of subjects given in syllabus. This list is associated with few more details and it is called as syllabus scheme.

Syllabus scheme – Semester 1

| Course Name | Internal Assessment(IA) exam Marks | End-Sem Exam(ESE) Marks | Total Marks | Credits (C) | Term Work(TW) Marks | Practical Marks | Oral Marks | Total Marks | Credits (C) |
|-----------------------|------------------------------------|-------------------------|-------------|-------------|---------------------|-----------------|------------|-------------|-------------|
| A Mathematics-I | 20 | 80 | 100 | 3 | 25 | - | - | 25 | 1 |
| A Physics-I | 15 | 60 | 75 | 2 | 25 | - | - | 25 | 0.5 |
| A Chemistry –I | 15 | 60 | 75 | 2 | 25 | - | - | 25 | 0.5 |
| Engg Mechanics | 20 | 80 | 100 | 3 | 25 | - | 25 | 50 | 1 |
| Basic Electrical Engg | 20 | 80 | 100 | 3 | 25 | - | 25 | 50 | 1 |
| Basic W/S Practice-I | - | - | - | - | 50 | - | - | 50 | 1 |
| Total | | | | 13 | | | | | 5 |

Relation of marks with Grade and Grade point based on % of marks obtained. Note Grade Points associated with Grades.

| Marks | 80% & above | 75-79.99% | 70-74.99% | 60-69.99% | 50-59.99% | 45-49.99% | 40-44.99% | Less than 40% |
|----------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|---------------|
| Grade G | O | A | B | C | D | E | P | F |
| Grade Point GP | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 0 |

Consider a sample case. Understand relation of % marks obtained in each head of passing with Grade Point(GP)

| Subject | | Credits (C) | Marks | % of Marks | Grade | Grade Points (GP) | GPxC |
|-----------------------|--------|-------------|--------|------------|-------|-------------------|------|
| A Mathematics | IA+ESE | 3 | 79/100 | 79 | A | 09 | 27 |
| A Mathematics | TW | 1 | 19/25 | 76 | A | 09 | 09 |
| Applied Physics-I | IA+ESE | 2 | 60/75 | 80 | O | 10 | 20 |
| A Physics-I | TW | 0.5 | 20/25 | 80 | O | 10 | 05 |
| A Chemistry-I | IA+ESE | 2 | 68/70 | 97 | O | 10 | 20 |
| A Chemistry-I | TW | 0.5 | 22/25 | 88 | O | 10 | 05 |
| Engg Mechanics | IA+ESE | 3 | 82/100 | 82 | O | 10 | 30 |
| Engg Mechanics | TW | 1 | 20/25 | 80 | O | 10 | 10 |
| Basic Electrical Engg | IA+ESE | 3 | 77/100 | 77 | A | 09 | 27 |
| Basic Electrical Engg | TW | 1 | 19/25 | 76 | A | 09 | 09 |
| Basic W/S Practice-I | TW | 1 | 42/50 | 84 | O | 10 | 10 |
| Total | | 18 | | | | | 172 |

$$\text{Semester Grade Performance Average (SGPA)} = \frac{\sum(GP \times C)}{\sum C} = 172/18 = 9.56$$

As you progress, you get SGPA for each semester. Now, you can calculate Cumulative Grade Performance Average (CGPA) = $\frac{\sum(GP \times C)}{\sum C}$; where you consider subjects grades, GP & credits of all the subjects, till the current point.

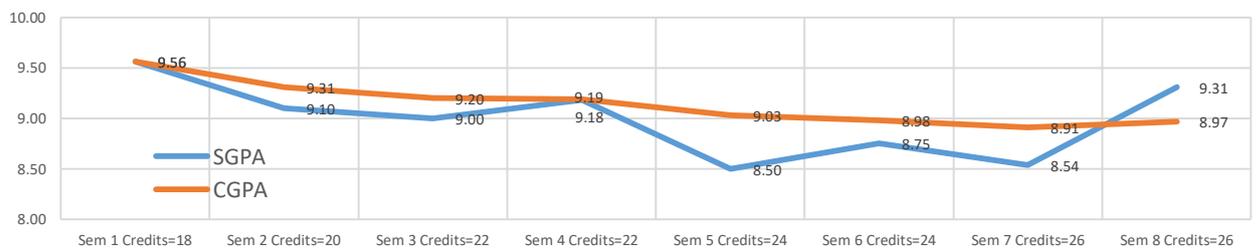
See following table. You can see SGPA and then CGPA at various stages.

| | Sem 1 | Sem 2 | Sem 3 | Sem 4 | Sem 5 | Sem 6 | Sem 7 | Sem 8 |
|---|---------------|---------------|-------|-------|-------|-------|-------|-------|
| Credits (C) | 18 | 20 | | | | | | |
| Grade Point GPxC | 172 | 182 | | | | | | |
| SGPA | 9.56 | 9.10 | | | | | | |
| CGPA = $\frac{\sum(GP \times C)}{\sum C}$ | 172/18 = 9.56 | 354/38 = 9.31 | | | | | | |

| | Sem 1 | Sem 2 | Sem 3 | Sem 4 | Sem 5 | Sem 6 | Sem 7 | Sem 8 |
|---|---------------|---------------|---------------|---------------|----------------|-----------------|-------|-------|
| Credits (C) | 18 | 20 | 22 | 22 | 24 | 24 | | |
| Grade Point GPxC | 172 | 182 | 198 | 202 | 204 | 210 | | |
| SGPA | 9.56 | 9.10 | 9.00 | 9.18 | 8.50 | 8.75 | | |
| CGPA = $\frac{\sum(GP \times C)}{\sum C}$ | 172/18 = 9.56 | 354/38 = 9.31 | 552/60 = 9.20 | 754/82 = 9.19 | 958/106 = 9.03 | 1168/130 = 8.98 | | |

| | Sem 1 | Sem 2 | Sem 3 | Sem 4 | Sem 5 | Sem 6 | Sem 7 | Sem 8 |
|---|---------------|---------------|---------------|---------------|----------------|-----------------|-----------------|-----------------|
| Credits (C) | 18 | 20 | 22 | 22 | 24 | 24 | 26 | 26 |
| Grade Point GPxC | 172 | 182 | 198 | 202 | 204 | 210 | 222 | 242 |
| SGPA | 9.56 | 9.10 | 9.00 | 9.18 | 8.50 | 8.75 | 8.54 | 9.31 |
| CGPA = $\frac{\sum(GP \times C)}{\sum C}$ | 172/18 = 9.56 | 354/38 = 9.31 | 552/60 = 9.20 | 754/82 = 9.19 | 958/106 = 9.03 | 1168/130 = 8.98 | 1390/156 = 8.91 | 1632/182 = 8.97 |

Credits shown are for representation purpose only and may differ from actual numbers in syllabus.



- Note :
1. Every subject-grade plays important role in SGPA. SGPA of each semester plays significant role in final CGPA
 2. Subjects having more credits have more influence on SGPA
 3. Failure in the subject/year drop does not affect final CGPA
 4. University mentions CGPA only at the end of the course