**Analysis of Questions (Internal & External Exams) 2016 – 2020**
**Using the Cognitive Levels of Bloom's Taxonomy**

B.S Bloom, the prominent American educationist and his associates, established the taxonomy for educational objectives in 1956, in order to help curriculum developers and teachers to set learning experiences/objectives for the students and to develop assessment tools to measure their learning.

Bloom has given highest amount of priority to the cognitive domain as it deals with recall and recognition of knowledge and the development of intellectual abilities and skills. The cumulative hierarchical framework consist of six categories, each requiring achievement of the prior skill or ability before the next, more complex one. At the lowest level is Remembering/Knowledge and at the highest level is Creating. Bloom's Taxonomy clearly provides objectives and expected outcomes for every level, as well as Verb Wheel for setting/asking questions for every level.

The six Cognitive levels given by Bloom's Taxonomy of Educational Objectives (Revised version 2001) are:

1. Remembering/Knowledge
2. Understanding/Comprehension
3. Applying
4. Analysing
5. Evaluating
6. Creating.

In analysis of questions, questions from both internal and external examinations are analysed on the basis of the cognitive levels of Bloom's Taxonomy and categorised into their proper cognitive levels. While analysing and categorising the questions, the objectives, expected outcomes and verb wheel given for every level is taken into consideration. The six cognitive levels are further divided into three groups or levels.

| | |
|---|---|
| Lower Order Cognitive Level | Remembering & Understanding |
| Middle Order Cognitive Level | Applying and Analysing |
| Higher Order Cognitive Level | Evaluating & Creating |

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**Table 1: Year-wise analysis of questions 2016 – 2021 (All Streams)**

| Year | Remembering/ Knowledge (Level 1) | Understanding/ Comprehension (Level 2) | LOC (Level 1+2) | Applying (Level 3) | Analysing (Level 4) | MOC (Level 3+4) | Evaluating (Level 5) | Creating (Level 6) | HOC (Level 5+6) |
|---|---|---|---|---|---|---|---|---|---|
| **2016 -17** | 15.03% | 25.19% | **40.22%** | 28.13% | 17.55% | **45.68%** | 8.65% | 5.45% | **14.1%** |
| **2017 - 18** | 15.58% | 21.76% | **37.34%** | 28.83% | 18.45% | **47.28%** | 9.25% | 6.13% | **15.38%** |
| **2018 -19** | 15.92% | 19.38% | **35.3%** | 29.17% | 18.94% | **48.11%** | 9.92% | 6.67% | **16.59%** |
| **2019 - 20** | 16.95% | 16.67% | **33.62%** | 28.95% | 20.27% | **49.22%** | 10.05% | 7.11% | **17.16%** |
| **2020 - 21** | 15.65% | 16.45% | **32.1%** | 28.94% | 20.75% | **49.69%** | 10.53% | 7.68% | **18.21%** |
| **2016 - 2020** | | | **35.72%** | | | **47.99%** | | | **16.29%** |

**Table 2: Consolidated Analysis of Questions 2016 – 2020 (Overall Picture)**

| Bloom's Taxonomy Categories | 2016 - 17 | 2017- 18 | 2018-19 | 2019-20 | 2020 - 21 | Overall % |
|---|---|---|---|---|---|---|
| ***Lower Order Cognitive (LOC) (Level 1 & 2)*** | 40.22% | 37.34% | 35.3% | 33.62% | 32.1% | **35.72%** |
| ***Middle Order Cognitive (MOC) (Level 3 & 4)*** | 45.68% | 47.28% | 48.11% | 49.22% | 49.69% | **47.99%** |
| ***Higher Order Cognitive (HOC) (Level 5 & 6)*** | 14.1% | 15.38% | 16.59% | 17.16% | 18.21% | **16.29%** |

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The above tables show the category of questions which have been set from every cognitive levels over a period of five years. i.e, 2016 – 2021. It has been revealed that majority of the questions belong to Middle Order Cognitive levels. Although the findings are quite satisfactory, it can be seen that the college and its faculty members have to work on setting more questions from the Higher Order Cognitive Levels in the future. Thus, it can be concluded that more efforts need to be given for the development and promotion of Higher Order Cognitive skills of students.

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