## Aspiring Minds' Campus Analysis Report

## Bharatiya Vidya Bhavan's Sardar Patel College Of Engineering

(B.Tech/B.E-2020)


Aspiring Minds Assessment Pvt. Ltd.

Study of Students' Employability and their Performance in AMCAT

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## Purpose of this Report

The Aspiring Minds Campus Analysis Report provides a detailed analysis of the student quality and their employability in the industry. Our aim is to produce a report which is useful to the campus and includes a comprehensive comparison across different degrees, streams and batches. All such analysis will serve as an employability checkup for students and accordingly, the administration can prioritize its efforts to increase the overall student employability.

The various sections of this report give a broad view on numerous aspects related to the performance of students. These sections contain tables and charts which have been constructed after an in-depth analysis of AMCAT assessment data collected from your campus. We evaluate your students' performance in comparison to the nation-wide norms, which are calculated from a sample of entry-level job-aspirants over 22 states across India. This comparison reveals those areas in which your students fare better (or otherwise) than the average student assessed by us, and determines the employability of the students in diverse industries. This report will give a clear picture of the employability status of students eligible for the listed companies and also help the institute to improve on the weak areas figured by Aspiring Minds' analysis.

We also provide an intra-campus analysis to give an overview of the characteristics of top performing students in comparison to the rest, such that appropriate measures can be taken to help the low performers fare better.

On the basis of our analysis, we suggest certain recommendations for your campus. We are certain that these recommendations will help Bharatiya Vidya Bhavan's Sardar Patel College Of Engineering march towards its goal of providing excellent education to the students, which will result in better employability. Our recommendations, if properly implemented, will also help increase the standing of the campus amongst prospective students.

## Data Snapshot

| Campus | Bharatiya Vidya Bhavan's <br> Sardar Patel College Of <br> Engineering |
| :--- | :--- |
| Date of testing | 9th August 2019 |
| Degree tested | B.Tech/B.E (191 students) |
| Number of students compared in each stream |  |
| Civi Engineering | 64 students |
| Electrical Engineering | 67 students |
| Mechanical Engineering | 60 students |

Note: some students either did not enter their stream or entered it incorrectly. These students have not been included in any stream. Thus total students tested could be more than students in all reported streams.

## Introduction

This report is based on the results of AMCAT assessment conducted at your campus on 9th August 2019 where a total of 191 students were tested. AMCAT is a two and half-hour adaptive test with multiple modules including aptitude, domain skills and personality assessment. It is India's largest employability test and is taken by more than 30,000 students every month. Being India's only adaptive employability test, it is used as a benchmark for hiring by several companies across India. The details of AMCAT assessment are as follows:

## AMCAT Modules

I. English Comprehension
II. Quantitative Ability
III. Logical Ability
IV. Electronics and Semiconductor Engineering
V. Mechanical Engineering
VI. Electrical Engineering
VII. Civil Engineering
VIII. Aspiring Minds Personality Inventory (AMPI)

## I. English Comprehension

Familiarity with the English Language in its various nuances is an essential skill, especially in the current climate of global networking. Ideally, any recruitment should involve a test of skills in handling the language in ways that promote the objectives of the company. Needless to state, an appropriate test is necessary.

Our English test uses a variety of internationally standardized resources for framing questions aimed at determining the candidate's ability to a) understand the written text (b) comprehend the spoken word and (c) communicate effectively through written documents. The test broadly covers the following areas:
a. A wide-ranging vocabulary to cope with general and specific terminology.
b. Syntax and sentence structure, the incorrect use of which distorts meaning and becomes a communication hurdle.
c. Comprehension exercises designed to test a candidate's ability to read fluently and understand correctly.
d. The ability to understand and use suitable phrases, which enrich the meaning of what is conveyed.

Time management and accuracy in conformity with the examiner's criteria.

## II. Quantitative Ability

The Quantitative Ability assesses the ability of the candidate in following two aspects:
a. Basic understanding of numbers and applications This section tests whether the candidate has understanding of basic number system, i.e., fractions, decimals, negative, positive, odd, even numbers, rational numbers, etc. The candidate should know how to do basic operations on these numbers, understand concepts of factors/divisibility and have good practice of algebra. Apart from operations on numbers, the candidate should know how to convert a real-world problem into equations, which is to be solved to find an unknown quantity. The candidate is tested on Word Problems representing various scenarios to assess the same.
b. Analytical/Engineering Maths

These are aspects of mathematics needed for Engineering disciplines and data analysis. This includes permutation-combination, probability and understanding of logarithms.
III. Logical Ability

The Logical Ability section assesses the capacity of an individual to interpret things objectively, to be able to perceive and interpret trends to make generalizations and be able to analyze assumptions behind an argument/statement. These abilities are primary for success of a candidate in the industry. Specifically, these are divided into following sections:
a. Deductive Reasoning: Assesses the ability to synthesize information and derive conclusions.
b. Inductive Reasoning: Assesses the ability to learn by example, imitation or hit-andtrial. This also provides an indication of how creative the individual is.
c. Subjective Reasoning: Assesses the critical thinking ability of an individual to see through loopholes in an argument or group of statements.

All these abilities are tested both using numerical and verbal stimuli. Coachable questions have been identified and removed.

## IV. Electronics and Semiconductor Engineering

The Electronics and Semiconductor test assesses the suitability of the candidate for the SOC, Embedded Systems, VLSI design, etc. companies. This test together with that of Computer Programming assesses the suitability of candidates for EDA companies. The test has the following sections:
a. Analog Electronics

1. Basic Components, their operations and Circuit Analysis
2. Active Components, Large, Small Signal and Circuit Analysis
3. Frequency domain and time domain analysis of systems, Feedback and Stability
4. Opamp based circuits and analysis
b. Digital Electronics
5. Boolean Algebra, Minimization of Boolean Functions
6. Implementation and Analysis of logic gates
7. Sequential blocks - flip-flops and latches
8. Digital Circuits and Blocks
9. State Machines and design of Complex sequential circuits

## V. Mechanical Engineering

In this module, a student is tested for his understanding of mechanical engineering theoretical and practical knowledge. Questions from different areas in this subject are asked so as to assess a student on his complete knowledge of the subject. The test has the following sections:
a. Manufacturing Science
b. Thermodynamics \& IC Engines
c. Fluid and Machine Mechanics

## VI. Electrical Engineering

The Electrical Engineering module has been designed to assess a candidate's knowledge working in power sector. The module is meant for B Tech. students who may be freshers or the students who may be exposed to industry for one to two years. The module checks for the concepts which would be used by the engineers in everyday working. The module consists of both conceptual and practical aspects of the subject.

## VII. Civil Engineering

Civil Engineering module assesses a student's skills, knowledge and understanding of the core ideas involved in the branch of civil engineering. The module focuses on testing a student on theoretical knowledge and practical concepts which will help him perform a good job as an engineer in the industry.

## VIII. AMPI: Aspiring Minds Personality Inventory

It is the first personality inventory designed for personality analysis of Indian college graduates for the purpose of inputs to corporate personnel selection. AMPI is based on the five factor model, which is by far the only scientifically validated and reliable personality model. Several scientific studies across the world have shown that different combinations
of the five factor personality traits strongly correlate to different job profiles and predict long term job performance reliably. AMPI analysis will be a worthwhile objective input to the corporate selection process and help find better matches to job profiles. The AMPI questionnaire asks for candidate's reaction under various scenarios, his/her beliefs, likesdislikes to ascertain his/her personality factors. Factors map to traits such as candidate motivation, self-discipline, sociability, persistence, confidence, emotional stability, etc. which both intuitively and scientifically map to job requirements. AMPI builds in a strong proprietary methodology to control distortions due to social desirability and answer-faking.

AMPI has been designed specifically keeping the fresh Indian graduates in mind. Context is very important in design of items. AMPI items take into consideration the cultural sensibilities of Indians, the scenarios students face at college/home, also depending on the socio-economic status of the target population. This brings AMPI into a unique position as compared to generic/Western inventories, which do not suit our target population and fail miserably.

AMPI's scoring is based on statistical techniques of factor analysis, polytomous item analysis and structural modeling. Norms have been set on large candidate assessment done on final year graduates. Testforms are auto-generated such that each factor can be reliably predicted in feasible amount of time. Test-retest reliability and test validity are statistically guaranteed.

AMPI traits are:
a. Extraversion
b. Conscientiousness
c. Emotional Stability
d. Openness to Experience
e. Agreeableness

## Score Interpretation

All scores lie between 100 and 900 . The scores are normalized on a Gaussian curve using statistical techniques. The scores follow global standards of validity and reliability. They are valid for three years and remain consistent on repeat testing unless the candidate's ability improves because of sustained long term efforts.

## Percentile Interpretation

The percentile of the candidate is calculated over a National average group based on the percentile of all students tested by Aspiring Minds. Several statistical studies conducted demonstrate clearly that the percentiles are stable for a year and will not vary more than two percentile points. The percentile is a very important metric and gives an idea of the candidate's rank in comparison with all graduates nationwide.

## Section 1 - Students' Capability and Training Need Analysis

This section shows the overall performance of the campus students, along with their average and standard deviation in each module. In Campus Aptitude and Skill Chart below, BLUE triangles represent average score of your campus in each module. The RED triangle represents Total Aptitude score, which comprises of English, Quantitative Ability and Logical Ability scores.


Campus Aptitude And Skill Chart

The Campus Ability Table below shows the campus average scores (percentiles) and their standard deviations in comparison with the National norms. It also indicates if the difference between the Campus Average score and the National Average score is significant and if so, at what confidence level. Norm is the National Average of all the candidates tested on AMCAT. Confidence level refers to the likelihood (ranging from 0 to $100 \%$ ) that the results observed in the study are real, and not due to chance. In this analysis, if confidence level is less than $90 \%$, it indicates that the difference between the Campus Average and the National Average is not significant and that both the scores are equivalent. For confidence level greater than or equal to $90 \%$, the difference between the Campus Average and the National Average is considered significant. If the difference is positive, on an average, the campus students are performing better than the National Average and vice versa.

## Campus Ability Table

| Modules Attempted | Campus <br> Average <br> Percentile | Campus Average (Std. Dev.) | National Average (Std. Dev.) | Difference <br> (Campus - <br> National) | Confidence | Is Significant? ${ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| English Comprehension | 82\% | 565 (109) | 475 (100) | 90 | 100\% | Yes |
| Quantitative Ability | 81\% | 598 (148) | 495 (115) | 103 | 100\% | Yes |
| Logical Ability | 61\% | 494 (75) | 465 (101) | 29 | 100\% | Yes |
| Electronics and Semiconductor Engineering | 80\% | 378 (102) | 310 (80) | 68 | 99\% | Yes |
| Mechanical Engineering | 67\% | 482 (120) | 450 (75) | 32 | 98\% | Yes |
| Electrical Engineering | 94\% | 539 (157) | 380 (103) | 159 | 100\% | Yes |
| Civil Engineering | 96\% | 427 (80) | 300 (72) | 127 | 100\% | Yes |
| Automotive Engineering | 97\% | 552 (122) | 400 (80) | 152 | 100\% | Yes |
| Fundamentals of Chemistry | 38\% | 311 (103) | 335 (80) | -24 | 49\% | No |
| Production Engineering | 74\% | 500 (151) | 463 (57) | 37 | 62\% | No |
| Computer Science | 41\% | 353 (78) | 380 (125) | -27 | 84\% | No |
| Basic Computer Literacy | 100\% | 683 (117) | 425 (100) | 258 | 100\% | Yes |
| Information Gathering and Synthesis | 75\% | 634 (175) | 550 (125) | 84 | 80\% | No |
| Total Aptitude | 77\% | 554 (83) | 478 (105) | 76 | 100\% | Yes |

[^0]Note: Chemical Engineering, Industrial Engineering, Food Science, Telecommunications Engineering, Basic Biology, MS Excel, Aeronautical Engineering and Human Resources modules are not considered as they were attempted by less than 5 students in your campus.

## I. Inferences

1. English Comprehension

Communication is the key to building relationships and trust that leads to success in business. English is a corporate language and hence, the ability to read and comprehend this language effectively is essential to qualify for all types of job profiles, whether it is technical or non-technical. It is pleasing to say that the students of your institute have done outstandingly well in English, on an average, scoring higher than the National Average with a significant difference. The credit must go to the teaching at your campus. This level of excellence should be maintained throughout by consistent endeavors by both the campus and the students towards enhancing English language skills, for which consistent reading and regular grammar practice being a few methods.
2. Quantitative Ability

Quantitative Ability measures a person's ability to deal with numbers and real-world problems quantitatively and mathematically. It is the ability to convert a real world problem into equations which can then be solved to find the result. This module is designed to measure a candidate's basic maths and algebraic skills, his/her understanding of basic quantitative concepts and his/her ability to reason quantitatively, solve quantitative problems and interpret graphical data. Your campus has shown excellent performance in Quantitative Ability module, on an average, scoring significantly higher than the National Average. Our analysis shows that the students are well focused on the fundamentals and they have a deep understanding of the underlying concepts to be used. In order to keep performing well in this module, students must continue to put in their efforts, by practicing questions regularly.
3. Logical Ability

The purpose of Logical Ability module is to test students' logical reasoning skills and to check their intuitive ability, decision making capability, problem solving approach and other areas which are important from a company's perspective. People with strong Logical Reasoning are quicker to perceive and interpret things objectively. Therefore, proficiency in this module is desired for all job profiles. Scores of your students in Logical Ability section are commendable. Although, on an average, the scores are greater than the National Average, the difference is not large. Our advice to students is to be motivated and keep practicing various questions to master the section, which will help them score higher and be way ahead of the National Average.
4. Electronics and Semiconductor Engineering

The Electronics and Semiconductor module tests the students' understanding of analog and digital electronics. Students need expertise in this area to pursue a career in fields such as VLSI Design, Embedded Systems, Computer-Aided-Circuit Design - in general, the Semiconductor and SOC industry. The topics included in this module are taught to students pursuing Electronics/Electrical engineering. In some colleges, it is also taught to students pursuing engineering in Computer Science, Instrumentation, etc. On an average, the scores obtained by students of your campus are significantly higher in comparison to the National Average of students pursuing Electronics related disciplines. This is commendable. The faculty at the institute must be congratulated. To maintain the
consistency in performance, the students need to regularly practice new questions. This will help them understand the concepts better.

## 5. Mechanical Engineering

Mechanical engineering module assesses a candidate's understanding on core concepts including mechanics, kinematics, thermodynamics, material science, structural analysis, etc. It requires a candidate to apply the principles of physics and material science for analysis, design, manufacturing and maintenance of mechanical systems. For any job profile in core mechanical sector, a student is required to do well in this module. The performance of your students has been reasonably good with students, on an average, scoring slightly higher than national average. While this is good, but in order to scale higher, further improvement is required. Our analysis shows that the students seem to have a basic understanding of the subject but need to practice more on the industrial application part - understanding the mechanism behind every process and relating the study to real-time scenarios will help.
6. Electrical Engineering

Electrical engineering module assesses a candidate's knowledge on a range of subfields like analog and digital electronics, power engineering, control systems and signal processing. The module deals with the study and application of electricity, electronics and electromagnetism. In order to build a career in fields such as Power sector, Control and electronics, a student is expected to do well in this module. The students of your institute have done extremely well in Electrical engineering module, on an average, scoring higher
than the National Average with a significant difference. Our analysis suggests that they seem to have a solid understanding of all the relevant areas in Electrical engineering. Students should extensively read industry-specific electrical systems like Q-meters, oscilloscopes etc and practice enough to remain in touch with the field.
7. Civil Engineering

Civil engineering module requires a student to have a basic understanding of core topics such as structural, geo technical, material, transportation engineering etc, so that a student is able to apply this knowledge in planning, design, construction and maintenance of structures (like roads, building, etc). The module tests the student to have a basic knowledge of general principles of mechanics and construction and requires the candidate to apply these principles in practical based problems. The students of your institute have performed very well in Civil engineering module, on an average, scoring significantly higher than the National Average. While you display a solid understanding of the concepts in civil engineering module, you should challenge yourself to more advanced and niche topics like traffic engineering and mapping concepts in surveying.

## 8. Automotive Engineering

Automotive engineering module incorporates elements of mechanical, electrical, electronic and safety engineering as applied to the design, manufacture and operation of motorcycles, automobiles, cargo-trucks etc. The module emphasizes on applied automobile design and testing, experimental/scientific methods related to automobile engineering and auto - Maintenance etc. Students need to do well in this module in order to build career in profiles related to automobiles - design, research and development and production. The performance of your students has been excellent in automotive engineering module. Students, on an average, have scored significantly higher than national average. Our analysis shows that your students display a solid understanding of all the relevant areas in automotive engineering. They should push their upper limits to learn more specific topics such as automobile testing and troubleshooting.

## 9. Production Engineering

Production engineering module requires a candidate to have an understanding of various manufacturing processes, metal cutting \& tool design, metrology, machine tools, Computer Integrated Manufacturing, etc. Students need to be well versed in this area in order to pursue a career in public and private sector manufacturing organizations engaged in design, development and implementation of new production processes, information and control systems, computer controlled inspection, assembly and handling. Students of your institute, on an average, have scored equivalent to the National Average in this module. Our analysis suggests your students seem to have a basic understanding of the subject but need to work on applications and conceptual details of the subject. They should practice more on automation, tool design and applications of various casting and joining processes.

## II. Performance Summary

From the above analysis, it is clearly visible that the performance of the students at your campus is good in English Comprehension, Quantitative Ability, Logical Ability, Electronics and Semiconductor Engineering, Mechanical Engineering, Electrical Engineering, Civil Engineering and Automotive Engineering, which is commendable. However, the students' performance is satisfactory in Production Engineering, whereas extra efforts can make a tremendous difference in performance. Methodologies such as mock tests, assignments and extra classes can become a valuable strategy for the benefit of students. The campus can also include proactive mentoring sessions for weak students and review their skills in the given area(s). Another approach can be to hold training sessions focusing on comprehensive guidance for the students to excel in their weak areas. The gain resulting from these training sessions and your continuous support will allow overall development of the student and further enhancement in their abilities.

## III. Training Suggestions

This section lists areas where your students need to improve on the basis of their performance in the AMCAT. For each module, according to the degree of improvement needed, appropriate suggestions have been provided.

## Campus Training Requirement Table

| Area to <br> Improve Upon | Degree of <br> Improvement | Suggestion |
| :--- | :--- | :--- |
| English <br> Comprehension | Slight | Encourage playing games like Scrabble, Crossword, etc. in <br> order to improve their English vocabulary. You can try placing <br> such word-games in the campus library. |
| Quantitative <br> Ability | Slight | Train the students to follow the clues and directions given in <br> thequestions well. Once the question is understood in a clear <br> manner, half the job is done. |
| Logical Ability | Very Less | Include explicit training for reasoning skills to make the <br> students practice different types of questions such as <br> syllogism, blood relations, direction sense, pattern <br> recognition, etc. |
| Electronics and <br> Semiconductor | Slight | It is a conceptual subject which requires very strong <br> foundation. For analog design, we recommend that initially, <br> students concentrate on basic circuit analysis and <br> understanding. 'Network Analysis' by Van Valkenburg is a <br> good book to strengthen one's concepts in this area. Once <br> the network concepts are clear, one should move on to active <br> circuit analysis and synthesis. The book we recommend for <br> this purpose is 'Microelectronic Circuits' by Sedra-Smith. This <br> book is very good for self-learning as it has been written <br> in reader-friendly manner. For digital design, we recommend <br> 'Digital Design' by Morris Mano. |
| Slectrical | Slight | Mechanical engineering is a practical oriented branch with <br> many real time applications. So, it is important that the <br> teaching relates to such scenarios like understanding how an <br> object is moving, what is the principle behind the working of <br> a machine, etc. |
| Engineering | In electrical engineering labs, students should be encouraged <br> to explore and assemble various circuits, so that they can <br> learn things practically. |  |
| Engineering | Very Less |  |


| Area to <br> Improve Upon | Degree of <br> Improvement |  |
| :--- | :--- | :--- |
|  |  | regularly conduct seminars and presentations so that <br> students stay ahead of the curve on cutting edge information. |
| Automotive | Slight | Organizing small workshops and conducting industrial visits <br> Engineering provide real world experience to students is one way of <br> enhancing student's knowledge. |
| Production <br> Engineering | Moderate | Seminars and presentations on manufacturing processes <br> followed by various production companies go a long way in <br> strengthening the knowledge and understanding of the <br> students. Students should avoid memorizing the various <br> manufacturing and machining processes. It would be a lot <br> easier to understand the mechanism involved and relating the <br> processes to real world scenarios. |

## Section 2 - Students' Employability

This section gives you an approximate idea about the kind of companies your students are competent for. This section also provides an insight into the criteria used by different companies for their hiring process. Additionally, an estimate of the employability of your campus students in different sectors is mentioned. In order to improve employability prospects, domains in which your students need to focus their efforts are also listed.

## I. Perspective on Corporate Shortlisting Criteria

In this section, we discuss the different kind of job profiles available for fresh graduates. For each domain, we discuss the nature of the job and the kinds of skills required to succeed in the particular job profile.

- IT Services

These types of service companies have large training setups of their own. They provide system integration solutions, software application development, testing solutions and many other services. For large services companies, Computer Programming score is not an important criterion. They look for candidates with acceptable English and Logical Reasoning along with strong Quantitative Ability skills. A good score in computer programming module is an advantage. HCL, TCS, Wipro, Satyam, Polaris etc are some of the major large scale service based companies.

- Electronics \& Semiconductor

The companies in this sector provide job opportunities which fall under one of these two categories: electrical power generation/transmission and its application. One can further specialize in research, testing, design \& development or production \& manufacturing. Most electrical engineering strongly prefer candidates with a degree in electrical engineering or related field and hence candidates are expected to have sound domain knowledge apart from being stong in analytical \& problem solving skills.

- ITeS and BPO

Business process outsourcing companies can be aptly defined as those that act to utilize the services of a third party in order to perform its back office operations. The BPO market is forecast to hit $\$ 450$ billion by 2012. These companies look at moderate to outstanding/ exceptionally good English, depending on whether they have national or international clients. The other parameters they use for short listing are acceptable Logical Reasoning and Computer skills. GE Capital, Convergys, Wipro Spectramind and Dell are some of the prominent BPO entities.

These companies specialize in Hardware and Network Support and basically provide integrated solutions for business enterprise applications, networking equipment and network management. That is they help manage organization's computing resources up and running. These companies primarily look for average quantitative and logical ability. Since the job does not include a lot of interaction with clients, they do not necessarily require good scores in English Comprehension. Cisco, Hewlett Packard, Nortel, NEC, Citrix and Netgear are some of the Hardware/Networking companies.

## - KPO/Analyst

Knowledge Processing Outsourcing (popularly known as KPO) calls for the application of specialized domain pertinent knowledge. KPO business entities provide typical domainbased processes, advanced analytical skills and business expertise, rather than just process expertise. These companies look for an impressive command in English and sound knowledge in both Quantitative and Logical Reasoning. Evalueserve, Ugam Solutions, 24/7 Customer, ICICl OneSource, etc. are some of the leading KPOs in India.

## - Automobile/Manufacturing Industry

Automotive engineers work in all aspects of a vehicle's design and performance. The work could be broadly in one of the three categories- product engineering, development engineering and manufacturing engineering. This job requires the person to have strong analytical skills and logical ability as it involves lot of data analysis before a new design is developed. They should be good with English language and since this is a specialized job profile, technical knowledge in this field is mandatory which is assessed by the Mechanical Engineering module.

## - Civil Design \& Construction

The job profile of a civil engineer includes planning and supervising the construction of society's infrastructure like roads, dams, buildings and highways. Civil engineering is a broad field and one would generally specialize in any one specific area like structural, construction, environmental or transportation engineering. Civil engineers need to have a strong aptitude for mathematics and should be able to think logically and creatively to be successful. They must be able to communicate well, both verbally and in writing. Domain knowledge is very important and hence the candidates need to have a bachelor's degree in Civil Engineering.

## - Electrical/Energy \& Power

The jobs in this sector involves design, deployment and maintenance of a broad range of electrical systems and equipment with a focus on economy, safety, quality and relaibility. The skills required for the role of electrical engineer include analytical skills, effective communication and organizational skills and mastery in engineering skills.

## - Production/Manufacturing

The jobs in the Life Science industry deal predominantly with research and development of molecules like drugs, vaccines, antibiotics, etc which help in enhancing the health of human beings and reduce the threat from diseases. Apart from research, the other roles offered in this industry include Production, Sales and Quality. For all roles, it is important that the candidate is well acquainted with the basics of Chemistry and Biochemistry. Additionally, a scientist/research specialist is expected to have sound knowledge of Molecular Biology and Biotech Lab Techniques. An employee in the Quality division needs to have good attention to detail.

## II. Employability Prospects

The following table suggests the methods to be implemented in order to improve employability of your students with reference to particular job profiles. We have investigated what precise skills are deficient in students which make them unemployable. These skills need to be improved through efforts of the student and campus. Campus administration is requested to go through these suggestions and implement them to make students more employable.

## Campus Job Match Table

| Type of Company | Percentage of <br> Students Eligible | Percentage of Students <br> Need some training | Percentage of Students <br> Need lot of training |
| :--- | :---: | :---: | :---: |
| IT Services | $54.7 \%$ | $11.6 \%$ | $33.7 \%$ |
|  <br> Semiconductor | $23.5 \%$ | $64.7 \%$ | $11.8 \%$ |
| ITeS and BPO | $86.2 \%$ | $3.9 \%$ | $9.9 \%$ |
| Hardware and <br> Networking | $81.8 \%$ | $7.7 \%$ | $10.5 \%$ |
| KPO/Analyst | $45.3 \%$ | $35.4 \%$ | $19.3 \%$ |
| Automobile/ <br> Manufacturing <br> Industry | $50 \%$ | $42.9 \%$ | $7.1 \%$ |
|  <br> Construction | $33.9 \%$ | $46.4 \%$ | $19.6 \%$ |
|  <br> Power | $20 \%$ | $33.3 \%$ | $28.1 \%$ |
| Production/ <br> Manufacturing | $70 \%$ | $10 \%$ |  |

## III. Bird's-eye-view of Employability

The following table suggests the methods to be implemented in order to improve employability of your students for each type of company. These recommendations are provided on the basis of weak modules for each company, which the faculty should work on to help their students. Campus is requested to go through these suggestions and implement them to elevate the chances of getting placed in that particular company.

## Campus Employability Enhancement Table

| Type of Company | Campus Employability Prospect | Areas in Need of Training for Improving Employability Chances |
| :---: | :---: | :---: |
| IT Services | Medium | These companies are basically looking for good English and Logical skills with average Quantitative ability. For better employability prospects in this industry, your students need to focus on Quantitative Ability, Logical Ability and English Comprehension. |
| Electronics \& Semiconductor | Low | These companies look for candidates having good knowledge of Electronics and Semiconductors with good Logical and Quantitative abilities. To increase the employability prospects for this industry, extra efforts are required by the campus authority on Electronics and Semiconductor Engineering, Quantitative Ability, Logical Ability and English Comprehension. |
| ITeS and BPO | High | These companies look for candidates proficient in English with average Logical and Quantitative abilities. |
| Hardware and Networking | High | These companies are basically looking for candidates with good English and average Logical abilities. |
| KPO/Analyst | Medium | These companies look for candidates having proficiency in English with good Quantitative and Reasoning abilities. For better employability prospects in this industry, your students need to focus on Quantitative Ability, Logical Ability and English Comprehension. |
| Automobile/ <br> Manufacturing Industry | Medium | These companies are basically looking for candidates with good English, Logical and Quantitative ability along with proficiency in Mechanical skills. For better employability prospects in this industry, your students need to focus on English Comprehension and Logical Ability. |
| Civil Design \& Construction | Medium | These companies look for candidates with good knowledge of English, Logical and Quantitative abilities |


| Type of <br> Company | Campus <br> Employability <br> Prospect | Areas in Need of Training for Improving Employability |
| :--- | :--- | :--- |
| Chances |  |  |$|$| ( |  | with proficiency in Civil Engineering. For better <br> employability prospects in this industry, your students <br> need to focus on Quantitative Ability and Logical Ability. |
| :--- | :--- | :--- |
| Electrical/Energy <br> \& Power | Medium | These companies look for candidates with good <br> knowledge of English, Logical and Quantitative abilities <br> with proficiency in Electrical Engineering. To increase the <br> employability prospects for this industry, extra efforts <br> are required by the campus authority on Logical Ability, <br> Quantitative Ability and English Comprehension. |
| Low | This profile requires candidates with basic aptitude skills <br> along with knowledge of Chemistry, Biochemistry, <br> Molecular Biology and Lab Techniques. If employability <br> prospects is to be increased for this industry, campus <br> faculty will need to focus on English Comprehension and <br> Logical Ability. |  |
| Manufacturing | Low |  |

## Section 3 - Intra Campus Comparison

In this section, we will compare assessment scores to create a comprehensive comparative analysis between different branches of a degree of your college. This section shall explain the competitiveness of students of each degree, branch and batch with others in the respective group.

## I. Stream Comparison

In this section, we compare the AMCAT scores of students categorized by their branch of study. Students from the following branches participated in AMCAT at your college.

1. Civi Engineering
2. Electrical Engineering
3. Mechanical Engineering


The chart below shows the comparison of module-wise average scores for each stream. To interpret the chart, refer to the above illustration. Each horizontal bar represents the average score along with the standard deviation of a particular branch in that module. The vertical line at the center of each bar represents the average score. The length of bar represents the range of scores obtained by students of that stream.


Note: color bands are in order.
For each module, the following table lists the top scoring streams. Only the modules which are common for all the streams have been considered in the table.

Top Scoring Streams For Each Module

| Rank | English Comprehension | Quantitative Ability | Logical Ability |
| :--- | :--- | :--- | :--- |
| 1 | Civi Engineering | Mechanical Engineering | Mechanical Engineering |
| 2 | Electrical Engineering | Electrical Engineering | Civi Engineering |

Note: streams with less than 5 students have not been considered for the analysis.

On the basis of AMCAT scores obtained by different streams in your campus, we make following inferences -

1. English Comprehension

Civi Engineering students have shown that they are the best when it comes to English Comprehension. Electrical Engineering students follow them with a difference of 3.03 percentile points while Mechanical Engineering students are the last in the order with a difference of 3.45 percentile points. Also, note that all the streams, on an average, have scored higher in comparison to the National Average.
2. Quantitative Ability

In Quantitative Ability Mechanical Engineering students are the top scorers, their average score exceeding that of Electrical Engineering by 8.41 percentile points while Civi Engineering students are the lowest scorers. Also, note that all the streams, on an average, have scored higher in comparison to the National Average.
3. Logical Ability

Mechanical Engineering students have shown that they are the best when it comes to Logical Ability. Civi Engineering students follow them with a difference of 11.3 percentile points while Electrical Engineering students are the last in the order with a difference of 12.86 percentile points. When compared to the National Average, all the streams have done better in this section.

In your campus, Mechanical Engineering stream performed outstandingly well in maximum number of modules. Also, Mechanical Engineering, Civi Engineering and Electrical Engineering streams are the low scorers of atleast one module. These streams need special attention.

## Aspiring Minds' Concluding Words

To summarize the overall analysis of your campus done by Aspiring Minds, key-points from all sections are highlighted below:

- The performance of the B.Tech/B.E students in your campus is good in English Comprehension, Quantitative Ability, Logical Ability, Electronics and Semiconductor Engineering, Mechanical Engineering, Electrical Engineering, Civil Engineering and Automotive Engineering, which is commendable. However, the students' performance is satisfactory in Production Engineering, whereas extra efforts can make a tremendous difference in performance.
- It is clearly evident that 54.7\%, 86.2\%, 81.8\%, 45.3\%, 50\%, 33.9\% and 38.6\% of your students are eligible to work in IT Services, ITeS and BPO, Hardware and Networking, KPO/Analyst, Automobile/Manufacturing Industry, Civil Design \& Construction and Electrical/Energy \& Power which is good, however 23.5\%, 0\% and 20\% of your students are eligible to work in Electronics \& Semiconductor , Telecom and Production/ Manufacturing respectively which is an area of concern.
- In your campus, Mechanical Engineering stream performed outstandingly well in maximum number of modules. Also, Mechanical Engineering, Civi Engineering and Electrical Engineering streams are the low scorers of atleast one module. These streams need special attention.
The strongest recommendation Aspiring Minds will like to give is initiation of classes to improve the weak areas of candidates. Apart from classes, regular quizzes and special training sessions should also be initiated, where students answer questions under time constraints. The classes should be student-friendly so that the students are open to questions and are free to ask their doubts. Peer teaching can be another way to increase the learning of students in the class

Along with increasing the employability of the institute, this will help your students compete with other candidates in a more effective and efficient way. With regard to areas where your students scored well, a sustained effort is needed. Regular assignments of problems should be given so that the students can accelerate their performance.

We strongly request the campus authorities to direct all students to follow the performance feedback given by Aspiring Minds based on their AMCAT scores. The campus authorities can go a long way in reminding students about their strengths and weaknesses, thus encouraging them to uphold their strengths and improve on their weaknesses. Consider special classes, better teaching processes and focused courses so that students get a good platform to improve and perform. We also strongly suggest conducting AMCAT again at campus after 4 months of dedicated hard work by students and campus authorities. This shall give students a benchmark to improve themselves, and help us understand if the initiated training program was useful. Of course, it would help students as well, with better scores leading to better job opportunities.

We thank Bharatiya Vidya Bhavan's Sardar Patel College Of Engineering for giving us an opportunity to conduct AMCAT in their campus. For any clarification or further analysis, we can be contacted at campus@aspiringminds.in or (91) 1244148777.

## Appendix

## I. Candidates Score Table

The Candidates score table below shows the scores and percentile of all the students of your campus tested on AMCAT. All scores lie between 100 and 900.

| amara | nome | macrsom, erememe |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | cometemen |  |  | usem |  |  | memmes |  | , ememen |  | ${ }_{\text {comem }}$ |  |  | ${ }_{\text {a }}$ amemels | atimeme |  |  | coimmex | ${ }_{\text {cosem }}$ | Smation | Some | coin | comereme |  |  |  |  |
| Bsemessinea | ansmeasemath | ${ }_{\text {as }}$ | 89\% |  | ${ }_{80} 0^{3 / 2}$ |  |  |  |  | ${ }^{20} 0^{29 x}$ | sex |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Isamosscosea | Amamexamer | ${ }_{55}$ | ${ }^{\text {ax }}$ | ${ }_{5 s 5}{ }_{\text {sex }}$ |  |  |  |  |  |  |  | ${ }_{20} 0_{58 x}$ |  |  |  |  |  |  |  |  |  |  |  |  | 780 | \% | ${ }_{\text {m* }}$ |  |
| Ssenossans9 | ammatameneme | \% | 9x | ${ }_{455} 585$ | ase ${ }^{\text {ase }}$ |  |  |  |  |  |  | 50 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ssemossoreso | Autipem | ${ }_{35}$ | ${ }^{\text {nx }}$ | ${ }_{300} 6080$ | $5{ }^{50}$ |  |  | ${ }^{205}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lsespossoease | Asantrasate | ${ }^{45}$ | s2x | ${ }^{405} 585{ }^{500}$ | ${ }^{200}$ |  |  |  |  |  |  | ${ }_{20}^{20}{ }_{\text {7ax }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ssemossomis | Neammaso | so | 9x | ${ }^{20}$ | ${ }_{50} 5$ | ${ }_{8}^{50}$ | ${ }^{055} 288$ |  |  |  | ${ }^{20}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lsemossongs | memenal | ${ }^{35}$ | 458 | ${ }^{20} 0^{29 \times}{ }^{22}$ | ${ }_{50}^{50}$ |  |  | ${ }^{455} 6$ |  |  |  |  |  |  |  | ${ }^{355}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| Iserossanes | antesine | 435 | asx | ${ }_{\text {cse }} 688$ | Som |  |  |  |  |  |  | 50 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Ampretum | ${ }^{\infty}$ | sx | ${ }_{680}{ }_{308}{ }^{258}$ | ${ }_{\text {s55 }}{ }^{\text {a }}$ |  |  |  |  |  |  |  |  |  | ${ }_{255}{ }^{18}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{\text {sisposssers }}$ | Ampos | ${ }^{80}$ | 388 | ${ }_{\text {as }} 5858$ | ${ }^{255}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sserosssses | Ansmeal | no | sex |  | ${ }_{5 s 5}$ |  |  |  |  |  |  | 808 |  |  |  |  |  |  | ${ }^{100}$ 1\% |  |  |  |  |  |  |  |  |  |
| ${ }^{15}$ | amenmomar | ${ }_{35}$ | ${ }^{2 \times 8}$ | ${ }_{555}^{588}{ }^{385}$ | S5s |  |  |  |  |  |  | ${ }_{80}^{208 x}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lsemossarsa | mens noes | ${ }^{58}$ | 80x | $5{ }^{50} 0$ | $5{ }^{50}$ | ${ }_{8}{ }^{35}$ | ${ }^{15}{ }^{318}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ssemossman | Ames semem | ${ }^{\text {no }}$ | 9\%x | ${ }^{200} 5085$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ${ }_{\text {us }}$ gex |  |  |  |  |  |  |  |
| Lsemossenes | Ammater | soo | ${ }_{84}$ |  | 555 |  |  | ${ }^{455}$ | ${ }_{6 \times}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Iserossm730 | amichame | 20 | 98x | ${ }^{200} 088$ | 500 \% | 8 |  | ${ }^{555}$ | ${ }^{82}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 Lsenossasseo | matreme | 20 | 9\% | ${ }^{200}$ | ${ }_{\text {S5 }}$ |  |  |  |  | rom ${ }^{\text {exx }}$ | -8x |  |  |  |  |  |  |  |  |  |  |  |  | 300 |  |  |  |  |
|  | amatemex | 70 | ${ }^{98}$ | ${ }^{255}$ | ${ }_{50}^{50}$ |  |  |  |  | $\underline{100}$ | \% |  |  |  |  |  |  |  |  |  |  |  |  | 300 |  |  |  |  |
| Sesossasase | Aminemesem | 20 | sex | \% | 500 |  |  | ${ }^{\text {as }}$ | sx |  |  |  |  |  |  | ${ }^{35} 780$ |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }_{\text {Isemsserser }}$ | nuisimemi | ${ }_{\text {cs }}$ | sx | 5 so | 6is ${ }^{80}$ |  |  | ${ }^{255}$ | sos |  |  |  |  |  |  | ${ }_{45}^{618}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| Isemessinz9 | Auspeat | so | as\% | ${ }^{300}$ | $\square_{\text {sss }}$ |  |  |  |  | ${ }_{50}{ }_{6 s x}$ | sx |  |  |  |  | ${ }_{358}{ }_{358}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| Sespesssuas | Amperecoute | ${ }_{\text {as }}$ | 9\% | 22060 | ${ }^{20} 5$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sesemsmins | nosomem | ${ }^{65}$ | 988 | ${ }^{20} 5$ | sss |  |  |  |  |  |  | ${ }^{20} 808$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lserossenass | ${ }^{\text {amanemamat }}$ | ${ }_{5 s}$ | 80\% | ${ }^{20} 0^{298} 58$ | sss ${ }^{\text {m }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{\text {Lsenossasasse }}$ | Membsere | es | 9x | $\underbrace{250}$ | 8 |  |  | ${ }^{455}$ | ${ }^{7 \times}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sserossouss | anemear | ${ }^{\text {as }}$ | ${ }_{88}{ }^{\text {m }}$ | ${ }_{680} 888$ | ${ }_{50}^{50}$ |  |  |  |  |  |  | ${ }^{20}{ }^{278}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sserossomes | 2nteresemi | 65 | 9** | ${ }_{325}^{358}{ }^{288}$ | 500 ${ }^{\text {g }}$ |  |  |  | n* |  |  |  |  |  |  |  |  |  |  | ${ }^{\text {ais }}$ |  |  |  |  |  |  |  |  |
| ${ }^{\text {Iserossmant }}$ | Ammensama | ${ }_{35}$ | ${ }^{\text {n2x }}$ | ${ }_{355}{ }^{388}{ }^{32}$ | ${ }_{50} 5$ | ${ }_{8}^{n}$ | ${ }^{35}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{\text {Isenosscoar }}$ | ansosese | ${ }^{20}$ | 988 | ${ }^{200} 0808$ | 580 |  |  |  |  |  | ax |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lserossozas | nemberemer | 30 | sx\% | ${ }^{30}$ | Sos |  |  | ${ }^{205}$ | \% |  |  |  |  |  |  |  |  |  |  |  | ${ }^{\text {cs }}$ \% ${ }^{\text {sxx }}$ |  |  |  |  |  |  |  |
| ${ }^{\text {Lserossamasas }}$ | Amans | as | sex |  | ${ }^{20} 0^{38}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lserossoseres | mestremsed | ${ }^{35}$ | 8\% | ${ }^{20} 0^{88 \times} 8$ | +50 ${ }^{30}$ |  |  | ${ }^{45} 5$ | ${ }_{69}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{\text {Lsemossasgate }}$ | sommsant | 80 | 35\% | ${ }^{30} 0^{108}{ }^{108}$ | ${ }_{25}{ }^{25}$ |  |  |  |  |  |  | ${ }_{20}^{200} 00$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lserossmses | emumensmame | so | ${ }^{\text {asx }}$ | ${ }^{200}{ }^{31 \times} \times$ | 300 | ${ }_{8}^{1}$ | ${ }^{35}$ |  |  | ${ }_{50}{ }_{\text {cs }}$ | ss. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lserossmena | samumen | as | n.x |  | ass |  |  |  |  |  | n\% |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lserosssoesa | camasiope | at | sox | ${ }^{25} 50 \times 10$ | ${ }_{455} 5$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1semessisiz | cousmereme | ${ }^{\text {as }}$ | ${ }_{88 \%}$ | ${ }_{220} 26{ }^{35}$ | ${ }_{385}^{38}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 200 |  |  |  |  |
| Sserossmasi | Cammear | 50 | ${ }^{82 \times}$ | ${ }^{575} 5585$ | Sos |  |  |  | 86\% |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1semossems | Comenelzee | ${ }_{50}$ | ssx | ${ }^{20} 0080$ | 800 ${ }^{8}$ |  |  |  | 6\% |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ssesosszees | Cmimssmen | ${ }_{45}$ | ${ }^{\text {s28 }}$ | ${ }^{555} 5885$ | 455 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{\text {Lsemosssmar }}$ | Oefereme | as | ${ }^{88} \times$ | sso $78 \times$ | ${ }^{255}$ | ${ }_{8}^{35}$ | ${ }^{255} 5$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{\text {Isemossornil }}$ | omemsmem | 50 | 6ix | ${ }_{\text {ass }}{ }^{\text {asx }}$ | ${ }_{50} 5$ | ${ }_{n}^{n}$ |  |  | 80\% |  |  |  |  |  |  |  |  |  |  |  |  |  | 380 |  |  |  |  |  |
| ${ }^{\text {Lsamosssmase }}$ | Ommanivo oes | 50 | ${ }^{\text {asx }}$ | $\cos ^{\text {asx }} 8$ | 800 |  |  |  |  |  |  | ${ }^{20}{ }^{78 \times}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | omemem | so | ss\% | ${ }_{555}^{588}{ }^{388}$ | $\cos ^{\cos }$ |  |  |  |  |  |  | 208 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{1380}$ | Opmenemoner | ass | ${ }_{458}$ | ${ }_{60} 8088$ | 300 | ${ }_{2}{ }^{23}$ | ${ }^{25} 338$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lsemossmana | omatamo | ${ }^{\text {as }}$ | $3 \mathrm{z} \mathrm{\%}$ |  | 20 |  |  |  |  |  | ax |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ssemossatao | Omemem | ${ }_{4}$ | ${ }_{45 \%}$ | ${ }^{20} 0^{28 x}{ }^{200}$ | 200 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ${ }_{355}{ }^{\text {a }}$ |  |  |  |  |  |  |  |  |
| ${ }^{\text {Lsemposssamar }}$ | Onmestratume | 20 | ${ }^{328}$ | ${ }^{20} 068{ }^{658}$ | ${ }^{455}$ | ${ }_{6}^{46}$ | ${ }^{45}{ }^{\text {nix }}$ |  |  | ${ }_{50}{ }_{6 s}$ | s\% |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Onatantasar | ${ }^{20}$ | 90x | ${ }^{20}$ | ${ }_{\text {ss }}$ |  |  |  |  |  | ${ }_{8}^{20}$ |  |  |  |  |  |  |  |  |  |  |  |  | ${ }^{20}$ |  |  |  |  |
| Ssemessarate | smasoious | ${ }^{60}$ | nx | ${ }_{45}{ }^{505}$ | ess ${ }_{80}^{8}$ |  |  |  |  |  |  | 200 80 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lserossin23 | Comismentar | ${ }_{3 s}$ | ${ }^{28}$ | ${ }_{680} 0^{398}$ | ${ }_{40}^{40}$ | ${ }_{8}^{8}$ |  |  |  |  |  | ${ }_{80} 8080$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |


| amario | nome | macrsem, erememe |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Cmemetemen |  |  | Lester |  |  |  | ${ }_{\text {cta }}^{\text {a }}$ |  |  |  | Tutamemememem |  |  |  |  | ${ }^{\text {nemeneme }}$ | Someme |  | bememe | Pataien | biome | ceime | ${ }_{\text {cosememe }}^{\text {comeme }}$ |  |  |  |  |
| ${ }_{\text {Isemasssmzs }}$ | amamenometa | 40 | ${ }_{30}$ | ${ }_{55}{ }^{\text {ax8 }}$ | sts |  |  | ${ }^{35} 5$ |  |  |  |  |  |  |  | ${ }_{\text {cs }}{ }_{\text {cx }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ssemessmsas | nemumat | no | m\% | ${ }_{35}{ }^{33 \times}$ | ass |  |  | ${ }^{\text {m5 }}{ }^{88}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lsesosscoss | manamesmome | 580 | ${ }^{798}$ | 705 | as5 |  |  | ${ }^{35} 5$ |  |  |  |  |  |  |  |  |  |  |  |  |  | ${ }^{255}$ |  |  |  |  |  |  |  |
| Ssemossmasi | matamem | ${ }^{355}$ | ${ }^{25}$, ${ }^{50}$ | ${ }_{30}{ }^{\text {cex }}$ 220 | ${ }^{255}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lsemossssy | momers mama | so | sx ${ }^{\text {a }}$ |  | soo |  |  | ${ }^{355} 58$ |  |  |  |  |  |  |  | ${ }_{355}^{258}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{\text {Lsamosssmua }}$ | Msumame | ${ }^{\text {ass }}$ | ${ }^{458}$ | ${ }_{30}{ }^{288}{ }^{28}$ | 335 |  |  | ${ }_{35}^{25} 53$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1ssessasara | Smaxiselse | 35 | ${ }^{\text {n2x }}$ | ${ }^{200}{ }^{318}{ }^{30}$ | 300 |  |  |  |  | 38 |  |  | 35 | $5 \times$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }_{\text {Isemosssmant }}$ | mernemin | ${ }^{\text {as }}$ | $9 \%$. | ${ }_{\text {c5 }}{ }^{\text {ax\% }}$ 5 | ${ }_{30}{ }^{70}$ |  |  |  |  |  | ${ }^{20}$ | 208 |  |  |  |  |  |  | ${ }^{39}$ | ${ }_{\text {as\% }}$ |  |  |  |  |  |  |  |  |  |
| Bsemesscose | mikemic | as | ${ }^{218}$ | 45 | Sess |  |  |  |  | 23x |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 280 |  |  |  |  |
| Iserosscams | Smintem | soo | ${ }^{78 \times}$ | ${ }_{35}{ }^{338}$ | 400 |  |  |  |  |  | 50 | sex |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ssemossabiz | sorumbe | as | mx | ${ }_{45}{ }^{\text {asx }}$ |  |  |  |  |  |  | 300 | ${ }^{3 \times}$ |  |  |  |  |  |  |  |  |  |  |  |  |  | ${ }_{63}{ }^{38}$ |  | ${ }^{21 \times}$ |  |
| 1spesszasat | mambose | so | 9x\% | so 0 oxx | a00 |  |  |  |  |  | soo | s* |  |  |  |  |  |  | ${ }^{28}$ | 19\% |  |  |  |  |  |  |  |  |  |
| Iserossssize | komatar | ${ }^{\text {ass }}$ | ${ }_{28}{ }^{68}$ |  | 305 |  |  | ${ }^{205}$ |  |  |  |  |  |  |  |  |  |  |  |  |  | ${ }_{588}{ }^{\text {ses }}$ |  |  |  |  |  |  |  |
|  |  | ${ }_{5 s}$ | 80\% | ${ }_{65}{ }^{68 \%}$ | 205 |  |  |  | ${ }_{63}^{63}$ | ${ }^{\text {928 }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ${ }_{400}$ |  |  |  |  |
| Issossasam | mestas soue | 55 | 91x | ${ }_{\text {s5s }}$ 98x |  |  |  |  |  |  | ${ }^{20}$ | ssx |  |  |  |  |  |  |  |  |  |  | ${ }_{35}{ }_{8}^{36}$ |  |  | ${ }_{8}^{85}$ | ${ }^{63}$ | ${ }^{202}$ |  |
| Issosessmens | matenseme | so | ${ }^{78} \times$ | \%ss $50 \times$ | ${ }_{\text {s5 }}$ |  |  |  |  |  | ${ }^{50}$ | ex |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Isemessmgen | Mmasemete | ${ }_{6}$ | 9x\% | ${ }_{35}{ }^{3 \times 8}$ | ss5 |  |  |  |  |  | ${ }^{20}$ | sox |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Isemessseme | Nomismater | ${ }_{35}$ | 98 sm | ${ }_{85}{ }^{85}$ | sss |  |  |  |  | 9x |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 500 ${ }^{80}$ |  |  |  |  |
| Isemessarsee | memstsomi | ${ }^{\text {ess }}$ | $98 \times$ | ${ }_{900}$ | sts |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{\text {Lsemossssama }}$ | Mesisem | 80 | 9s\% | ${ }_{602} 018$ | $3{ }^{30}$ |  |  |  |  |  | ${ }_{40}$ | ${ }_{80}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ssemessmas | mencome | 45 | sex | 45 | 400 | ${ }^{25}$ | ${ }^{25}{ }^{12 x}$ |  |  | ${ }^{\text {csx }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sserssersz9 | Meremem | 30 | ${ }^{4 \times 8}$ | ${ }_{658}{ }^{978}$ | ss5 |  |  |  |  | sex |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{\text {Lsamossorma }}$ | mesan toust | so | 95\% |  | 200 |  |  | ${ }^{25} 8$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ssersesserat | Mamome | as | ${ }^{88 x}$ 30 | 330 | $2{ }^{255}$ |  |  |  |  |  | ${ }_{20}$ | 20\% |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1serossseat | mute cosame | 420 | ${ }_{328}{ }^{30}$ | 330 | $\underset{355}{34}$ |  |  |  |  | ${ }_{60}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Iserosserse | mouctanatak | ${ }^{35}$ | ${ }^{11 \times}$ | ${ }_{50}{ }^{\text {m\% }}$ | soo |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Bsemossmoan | mosinemar | 200 | $5 \times 8$ | $\xrightarrow[750]{ }$ | soo |  |  | ${ }^{355}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ssamossanas | mememeno | \%o | \%** ${ }^{\text {sin }}$ | 5so 6 exx | ${ }_{555}{ }^{45}$ |  |  |  |  |  | ${ }_{40}$ | 8x |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1spessissaz | Nastrasome | 20 | 9\% |  | 355 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 Ssenossome | Nemenosomemer | so | ${ }^{34}$ | ${ }_{\text {cos }}{ }^{978}$ | ${ }_{505}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ${ }_{400}$ |  |  |  |  |
| Lsemesseaze | Memosem | 300 | ${ }^{\text {bax }}$ | ${ }^{200} 318$ | 200 |  |  | ${ }_{355} 58$ |  |  |  |  |  |  |  |  |  |  |  |  |  | ${ }^{35}$ |  |  |  |  |  |  |  |
| Ssamssamas | Nomomes | $\infty$ | *x ${ }^{\text {s }}$ | 800 | soo |  |  |  |  |  | 300 | sex |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Nespemar | 50 | $98 \times$ | ${ }_{05}^{45}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ${ }^{25}$ | ${ }^{255}$ |  |  |  | * | 78 | 90\% |  |
| Isesossaeses | Nanamumar | ${ }_{6}{ }^{\text {sis }}$ | an8 ${ }^{7}$ | ${ }_{70}{ }^{\text {cosen }}$ | 5s5 | ${ }^{35}$ | ${ }^{35}$ |  |  | 93\% |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Issossssase | Natreat | ${ }_{65}$ | ${ }_{98}{ }^{5}$ | ${ }_{55}{ }^{308}{ }^{35}$ | 500 |  |  | ${ }_{335} 300$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ssemesscrase | Namboseme | 2s0 | 578 | ${ }_{355}{ }^{338}$ | ${ }^{20}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ssemosoramin | Onatroes | sio | ax\% | ${ }_{45}^{45}$ | 200 |  |  |  |  |  | ${ }^{200}$ | ssx |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }_{\text {Isemsessesse }}$ | Onamesome | 5 | ${ }_{88}$ | $5{ }^{500} 8$ | ${ }_{30}{ }^{20}$ |  |  | ${ }_{305} 320$ |  |  |  |  |  |  |  | ${ }_{\text {cs }}{ }_{\text {s\% }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Isemessaraee | Patunoer | 20 | ${ }_{38}$ | ${ }_{300}{ }_{60 x}$ | ${ }^{305}$ |  |  |  |  |  | ${ }^{202}$ | ${ }^{\text {z** }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{\text {sespossasser }}$ | Pemesembe | ${ }_{60}$ | ${ }_{38}{ }^{38}$ | ${ }_{355}{ }^{109}$ |  |  |  |  |  |  | 3 sos | ssx |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{\text {Ssemosszrg2 }}$ | Pesense | ${ }_{55}$ | ${ }^{\text {cox }}$ | ${ }_{25}{ }^{25} 48$ | 3s5 |  |  |  |  | ${ }_{60}$ |  |  |  |  |  |  |  |  |  |  |  |  |  | ${ }_{30}{ }^{30}$ |  |  |  |  |  |
| ${ }^{\text {Isemossinast }}$ | Poppmomer | 50 | ${ }^{828}$ | $8{ }^{200}$ | 800 |  |  |  |  |  | ${ }_{400}$ | ${ }_{88}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Isemosscose | Paposomical | aso | 30x ${ }^{\text {si }}$ | 500 6xx | soo |  |  | ${ }^{255}$ |  |  |  |  |  |  |  | ${ }^{255}{ }^{\text {max }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Isemosssucs | Poumumbenan | ass | ${ }_{\text {as\% }}{ }^{\text {si }}$ | 500 6xx | 200 |  |  |  |  |  | ${ }^{20}$ | mox |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lsemossonas | Poulsimmam | soo | ${ }_{\text {ex\% }}{ }^{51}$ | 530 | 5i0 |  |  |  |  |  | ${ }^{200} 2$ | ${ }_{30}$ |  |  |  |  |  |  |  |  |  |  |  | ${ }^{300}$ |  |  |  |  |  |
| ${ }^{\text {Lsenosssmass }}$ | Somen bexe | no | 9\% | ${ }_{50}{ }^{\text {m\% }}$ | 375 |  |  |  |  |  | so | 98\% |  |  |  |  |  |  | 48 | mox |  |  |  |  |  |  |  |  |  |
| Bsemesssami | Onjomesmonde | ${ }_{50}$ | ${ }_{82 \times}{ }^{\text {a }}$ | ${ }_{40} 008$ | ${ }^{205}$ |  |  |  |  |  | ${ }_{40}{ }^{1}$ | 80\% |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }_{\text {sispossonas }}$ | Somatame | ${ }^{65}$ | $9 \%$ | ${ }_{55}{ }^{308}$ | 500 |  |  | ${ }^{455}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Someme | ${ }_{5}{ }^{\circ}$ | 988 | ${ }_{755}{ }^{\text {988 }}$ | ${ }_{30}$ |  |  | ${ }_{355}{ }^{328}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }_{\text {Isemesssgess }}$ | Smanmestar | ${ }^{45}$ | ${ }_{458}{ }^{\text {so }}$ | $5{ }^{50} 0_{008} 5$ | s5 |  |  |  |  | ${ }^{\text {as\% }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }_{\text {sesposssrses }}$ | semsemat | so | ex\% | ${ }_{655}{ }_{908}$ | $\mathrm{sex}^{\text {sex }}$ |  |  | ${ }^{25}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ssenossass\% | pomusen | no | 5\% | 500 0 ex ${ }^{30}$ | 3ms |  |  |  |  |  | ${ }^{20}$ | \%ox |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lsemossasaz | Pmaspopose | ${ }_{55}$ | ${ }^{\text {758 }}$ | ${ }_{25}{ }^{48}$ 48 | ${ }^{30}$ |  |  |  |  |  | ${ }^{30}$ | sx |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Isesosssras |  | $4{ }^{45}$ | ${ }_{\text {sx } 8}$ | ${ }_{800} 9 \times 8$ | ${ }^{405}$ |  |  |  |  |  | 50 | ${ }_{\text {мx }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Isesosesessin | Pasameme | 420 | 328 | 800 20x 5 | 500 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lserosesser ${ }^{\text {a }}$ | Pratamesel | ss | ${ }^{758}$ |  | 30 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lsenessssan | smosmom | 30 | ${ }_{\text {asx }}$ | ${ }_{755} 58.8$ | ss |  |  |  |  |  |  |  |  |  |  | ${ }_{\text {ws5 }} 9$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ssenoss20sis | Somamen smam | ${ }^{\text {es }}$ | $98 \times$ | ${ }_{755}{ }^{\text {90x }}$ | ${ }_{455}$ |  |  |  |  |  | ${ }_{40}$ | 80\% |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lsesossunsese | Smamams. | so | ax | as5 938 | ${ }_{30}{ }^{20}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lserossosors | Pamamas | 40 | 38x | 700 | as5 | ${ }^{35}$ | ${ }^{3 \times}$ |  |  | ${ }^{\text {nox }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Isenosserze | Pemenemen | ${ }^{60}$ | ${ }^{39} \times$ |  | ${ }^{\text {ass }}$ |  |  |  |  |  | ${ }_{400}$ | ${ }_{88}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1spesssary | semenom | 30 | ${ }_{328}{ }^{35}$ | ${ }^{25}$ 908 |  |  |  |  |  |  | ${ }^{30}$ | ${ }^{\text {ax }}$ |  |  |  |  | ${ }^{20}{ }^{10}$ |  |  |  |  |  |  |  |  | 760 ${ }^{20}$ |  | ${ }^{\text {max }}$ |  |
| Isemessursa | Pentame | 45 | ${ }_{458}{ }^{28}$ | ${ }_{70} 0^{\text {nex }}$ 5 | 30\% |  |  | ${ }^{555}{ }^{328}$ |  |  |  |  |  |  |  |  |  |  |  |  |  | ${ }^{35}{ }^{200}$ |  |  |  |  |  |  |  |
| Issosessasoro | Penemment | 50 | ${ }_{95 \%}{ }^{\text {am }}$ | ${ }_{680} 0.8{ }^{50}$ | 50 |  |  | ${ }^{355} 538$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }_{\text {Lsemessase }}$ | Semat | ${ }_{65}$ | 9\% | ${ }_{80} 8$ | ${ }^{45}$ |  |  |  |  | 23\% |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ${ }^{20}{ }^{28}$ |  |  |  |  |
| 1 Iscosossrizes | Pematmoman |  | ${ }_{2 \times 8}$ | ${ }_{45}^{45}{ }_{35 \times}{ }^{35}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |


| ${ }_{\text {amario }}$ | nome | macrsemes.eremer |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | cmenemben |  |  | ${ }_{\text {Lex }}^{\text {Lexien }}$ |  |  | ${ }^{\text {matames }}$ |  |  |  |  | Trecmmememem |  |  | Sterseme | wsseat | nemane | comememe |  | ${ }_{\text {cosem }}$ |  | boies |  | comper |  |  |  |  |
| Lsemossamam | Pementuma | no | \%\% |  | ${ }_{50} 5$ |  |  |  |  |  |  | «x |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Bsenossones | Pemseme | 5 | 8\% |  | ${ }^{45}$ |  |  | ${ }^{\text {mss }}$ | \% |  |  |  |  |  |  | ${ }_{055}{ }^{\text {anx }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ssemossorat | Smanu yoseat | ${ }_{\text {as }}$ | 80\% | 32000 | sio |  |  |  |  | ${ }^{33}{ }_{40 \times}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ${ }^{20} 0$ | \% |  |  |  |
| Ssamossonese | emmamenesar | 30 |  |  | sts |  |  |  |  |  |  | sx |  |  |  |  |  |  | 37 | 20\% |  |  |  |  |  |  |  |  |  |
| Issossssseom | Smisimam | ${ }_{75}$ | mox | ${ }_{75} 50 \times 15$ | ${ }_{30}{ }^{30}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ssamossivas | Emathosmen | as | 8x\% | ${ }^{80}$ | sos | ${ }_{8}^{35}$ | ${ }^{31 \times}$ |  |  | ${ }^{20} 10 x$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1semossarse | emanomem | 200 | 200\% | 20050 | 5s5 | ${ }_{8}^{81}$ | ssx |  |  | 50] $8 \times$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lsemossames | Somosose | ${ }_{45}$ | ${ }_{45 \%}$ | ${ }_{200}^{20 \times}$ | as ${ }^{45}$ |  |  |  |  | ${ }^{33}{ }^{29 x}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lsemossoneze | Romememamion | ${ }^{20}$ | m\% | \% 80 | 35 |  |  |  |  | ${ }^{33}{ }^{3 \times 8}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ssemossens | Sosmemen | ss | ${ }^{2 \times}$ | $5_{500} 00 \times 5$ | 520 |  |  |  |  |  | 3 zo | ssx |  |  |  |  |  |  |  |  |  |  |  |  |  | i8 |  |  |  |
| ${ }^{\text {Lserossssiser }}$ | mumproseat | 50 | ${ }^{\text {pax }}$ |  | as5 |  |  |  |  | ${ }^{33}{ }^{43 x}$ |  |  |  |  |  |  |  |  | ${ }^{32}$ | 33\% |  |  |  |  |  |  |  |  |  |
| Sserossesese | strimactese | 45 | 238 | ${ }_{200} 3188$ | ${ }^{235}$ |  |  |  |  |  | 440 | 885 |  |  |  |  |  |  |  |  |  |  |  |  | 320 | \% |  |  |  |
| Isenossanı | semimama | ${ }_{75}$ | \%x | ${ }^{70}$ | 500 | ${ }^{2}$ | ${ }^{n \times}$ | ${ }_{55}{ }^{208}$ | $2{ }^{26}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Ssmbasam | ${ }_{45}$ | ${ }_{\text {sex }}$ | ${ }^{255}{ }^{\text {928 }}{ }^{\text {as3 }}$ | ${ }^{435}$ |  |  |  | ${ }^{26}$ | $\overbrace{60}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | som |
| Lsemossmaxe | semammomation | as | 918 | ${ }_{355} 510 \times 5$ | 200 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ssenossass 2 | Ssomomemal | ${ }^{\text {as }}$ | 9\%8 | 200 | ais | ${ }_{8}^{83}$ | 46x |  |  | ${ }^{33}{ }^{60 x}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lsemossazas | Sosidema | ${ }_{\text {us }}$ | 200\% | ${ }_{355} 548$ |  |  |  |  | 50 | ${ }_{50} \cos ^{6}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 80 \% | ${ }^{20]} 9$ |  |
| Iserossomeso | smmadicasai | eo | a** |  | ses |  |  | ${ }_{\text {as }}{ }_{\text {cex }}$ | \% ${ }^{\text {ax }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1ssessazam | smmatisan | 30 | ${ }^{188}$ |  | 400 |  |  |  | ${ }^{33}$ | ${ }^{33} 3^{48 x}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Isemessmena | smosisme | 55 | 60x | ${ }_{200} 11 \times 1{ }^{253}$ | $2{ }^{25}$ |  |  |  |  | ${ }^{60}{ }^{2 x}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ssemessamer | smamimot | 45 | ${ }_{\text {4s\% }}$ |  | sss | ${ }_{8}^{305}$ | ${ }^{28 \times}$ |  |  | ${ }^{\infty} \times$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }_{\text {Isemssemza }}$ |  | ${ }^{\text {as }}$ | ${ }_{\text {sx }}$ |  | $5{ }_{50}$ |  |  |  |  | ${ }_{33}{ }^{388}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Stateoste | ${ }_{55}$ | 6x | ${ }_{\text {80 }} 0^{\text {sex }}$ | ${ }_{505}^{505}$ |  |  |  |  |  | ${ }_{30}$ | ssx |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sserossosese | Sserscomem | 200 | sx | ${ }^{20} 0^{\operatorname{sox} 5}$ | ass |  |  |  |  | $5{ }^{50} 8 \times$ |  |  |  |  |  |  |  |  | ${ }_{32}$ | 38 |  |  |  |  |  |  |  |  |  |
| ${ }^{\text {Isenesscraser }}$ | Smentuma | 80 | 50\% | ${ }^{655}{ }^{398}{ }^{32}$ | 520 |  |  |  |  | ${ }^{20}{ }^{\text {asx }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{\text {Lsarosssomes }}$ | samilomi | 70 | ${ }^{\text {200\% }}$ | 750 | ${ }_{\text {ass }}^{\text {ax }}$ |  |  |  |  | ${ }^{\infty}{ }_{\text {max }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1sesosserma | Smemeste | ss | $88 \%$ | ${ }_{3 s 5}{ }^{33 \times}{ }^{34}$ | ${ }_{\text {as }}$ |  |  |  |  |  | sod | mx |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Bsemessersia | sata | mo | 200\% | ${ }_{200} 0^{208}$ | ${ }_{30} 3$ |  |  | ${ }_{355}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1spessosse | Smancmad | 30 | ${ }^{18 \times}$ |  | ass |  |  | ${ }_{305}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{\text {Isenossceser }}$ | smasames | eo | ax | ${ }_{302} 080 \times 5$ | 50 |  |  | ${ }_{\text {es5 }}^{\text {as\% }}$ |  |  |  |  |  |  |  | ${ }_{75}{ }^{\text {man }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Isemosscors | samememe | ${ }_{\text {as }}$ | 89\% | ${ }_{20} 0^{888}$ | 800 |  |  |  |  |  | ${ }_{30}$ | -sx |  |  |  |  |  |  |  |  |  |  |  | ${ }^{32}$ |  |  |  |  |  |
| Ssenosssyses | stamomom | ${ }^{\text {as }}$ | s8x | ${ }^{35} 250$ |  |  |  |  | ${ }^{3}$ | ${ }^{43}{ }^{1 \times x}$ |  |  |  |  |  |  |  | ${ }_{300}^{50}$ |  |  |  |  |  |  |  |  | ${ }^{33}$ | ${ }^{200} 214$ |  |
| Ssemosserer | stamome | so | ${ }_{\text {a* }}$ |  | ${ }_{305}^{38}$ |  |  |  | 2\% |  |  |  |  |  |  | ${ }^{358}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lsenosssenses | Smancosumis | ${ }_{8} 8$ | ss\% |  | 480 |  |  |  | ${ }^{43}$ | ${ }^{33}{ }^{488}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ${ }^{20} 0$ | $\stackrel{11}{*}$ |  |  |  |
| Issenosssisse | Stamemere | 50 | ${ }^{82}$ | ${ }^{20} 0^{60 x} \times$ | ${ }_{\text {as }}$ |  |  | ${ }_{45}{ }_{68 \mathrm{six}}$ | 38 |  |  |  |  |  | ${ }^{45}{ }^{25}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | smamamax | ${ }^{\text {as }}$ | s\% | ${ }_{330}{ }_{288}{ }^{\text {s5 }}$ | ${ }_{\text {s5 }}$ |  |  |  |  |  | ${ }^{40}$ | 8x |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{\text {ssemessasasas }}$ | Smemememan | 55 | 88\% |  | 50 |  |  | ${ }_{5 s 5}$ | ${ }^{4 *}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lsersessesese | smpatior | ${ }^{45}$ | ${ }_{45}$ | $\int_{455}^{55 x} 530$ | 500 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lsseosscreas |  | ${ }_{6 s}$ | s** | ${ }_{200} 2080$ | sts |  |  | ${ }_{355}^{828}$ | ${ }^{22}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ssersessases | Smomomemer | ${ }_{35}$ | ${ }^{n \times}$ | $\mathrm{mz5}^{250}$ | ${ }^{20}$ |  |  |  |  |  | 380 | ssx |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lserossmeor | smomemotaser | ${ }_{40}$ | 3s\% | ${ }_{455}^{455}{ }_{408}{ }^{202}$ | 200 |  |  |  |  | ${ }_{50} \operatorname{six}^{\text {c }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Sumamameat | ${ }^{\infty}$ | ${ }^{2 \times}$ | $\mathrm{sec}^{200}$ |  |  |  | ${ }_{\text {cs }}{ }_{\text {sex }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Smomemeat | 50 | ${ }_{\text {bix }}$ | ${ }^{20} 0^{\operatorname{sox}} \times$ | ass | ${ }_{8}{ }^{25}$ | ${ }^{23 \times}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ${ }_{30}$ | \% |  |  |  |
| Lsespossauss | Ssatiosomem | 580 | ${ }^{398}$ |  | 3 |  |  |  |  | ${ }_{33} 3^{38}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lsespessorate | Sesoswemate | ${ }_{35}$ | "18 | $\left.{ }^{455}\right\|^{558}{ }^{555}$ | 455 |  |  | ${ }_{45}{ }_{68 \%}$ |  |  |  |  |  |  |  |  |  |  |  |  | 45 |  |  |  |  |  |  |  |  |
|  | semomamer | ss | 78\% | ${ }_{\text {so }}{ }^{\text {m\%x }}$ | S5S | ${ }_{8}^{825}$ | ${ }^{33}$ |  |  | ${ }_{80}^{888}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lsesemssarse | stamenemam | so | sxx | [is $9 \times$ |  |  |  |  | ${ }^{20}$ |  |  |  |  |  |  |  |  |  |  |  |  | ${ }_{35}{ }^{100}$ |  |  |  |  | ${ }^{33}$ | ${ }^{633}{ }^{122}$ |  |
| Ssemosseese | somas amia | +0 | 2** | ${ }_{200}^{2080} \times 100$ | a0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ssenossmames | summerem | 380 | ${ }^{4 \times 8}$ |  | ${ }^{\text {as5 }}$ |  |  |  |  | ${ }^{\infty}{ }_{\text {csx }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lscosessesse | smmbisme | ${ }^{35}$ | ${ }_{458}$ | ${ }^{200}$ | 305 |  |  |  | ${ }^{26}$ | $\overbrace{60}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lsesosszrean | sempame | ${ }_{65}$ | ${ }^{\text {9,4 }}$ | ${ }_{200}^{2080} 108$ | ${ }_{\text {ses }}$ |  |  | ${ }_{\text {s55 }}{ }_{66 \%}$ | 6\% |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lsespossserss | smomeme | ${ }^{35}$ | 25* | ${ }_{355}{ }^{268} \times 3$ | 300 |  |  |  |  | ${ }^{33}{ }^{39}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ssasossmana | Smanomosmen | as | ${ }^{2 \times}$ | $200^{80 \times} \times$ | 500 |  |  |  |  |  | ${ }_{40}$ | 8x |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Iserosscores | smamean | ss | ${ }^{75 \times}$ | ${ }_{5 s 0} 0_{\text {exx }}{ }^{\text {ese }}$ | ass |  |  |  |  | $5{ }^{50} 8$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Timisamase | 480 | 3x\% |  | ass |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ${ }_{3 s 5}{ }_{\text {ask }}$ |  |  |  |  |  |  |  |
| Bserossseon | Temementar | soo | ${ }_{848}$ | ${ }_{355}{ }^{385}$ | 50 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 527 |
| Sserosssesse | Textiomer | ${ }^{35}$ | 100\% | ${ }_{580} \operatorname{cox}^{\text {cox }}$ | 300 |  |  |  |  |  |  | ssx |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{\text {Serenossarax }}$ | Tosememed | ${ }_{4 s}$ | $\operatorname{sex}^{80}$ | ${ }_{502} 0_{608}{ }^{535}$ | Ss5 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Iserossarama | Temewame | ${ }_{65}$ | ${ }^{\text {ax\% }}$ |  | 200 |  |  |  |  | $\overbrace{60}^{60}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Iserosssraese | teommen | ${ }_{\text {us }}$ | \%* | ${ }_{500} \cos ^{60 x}$ | 375 |  |  |  |  |  |  | ssx |  |  |  |  |  |  | ${ }^{28}$ | ${ }^{198}$ |  |  |  |  |  |  |  |  |  |
| Iserosssss) | Tusaremem | ${ }^{20}$ | sx\% | ${ }^{255}{ }^{\text {928 }}$ | ${ }^{200}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Iserossssese | Tuessmen | ${ }^{20}$ | 9x\% |  | sss |  |  |  |  |  |  | 88\% |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sserossssols | Uumosomeme | ss | ${ }^{75 \times}$ |  | 200 |  |  |  |  |  |  | s* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lsenossamar | vatumwa | 200 | 5\%\% |  |  |  |  |  |  |  |  | 2x |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lsespessyus | veseatmerer | se | 5\% | 80 | sts |  |  |  | \% 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lsesosscears | vatassan | sss | ${ }^{35} \times$ | ${ }^{200} 0^{208}{ }^{028}$ |  |  |  |  |  | $\left.{ }^{68}\right]^{23 \times}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |


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|  |  | Centilen |  | aunaturive |  |  | $\begin{aligned} & \text { Electronics } \\ & \text { and } \\ & \text { Semiconductor } \\ & \text { Engineering } \end{aligned}$ | Metaneal |  |  | ${ }_{\text {Espowering }}^{\text {cow }}$ |  | TelecommunicationsEngineering |  | $\substack{\text { Cremeal } \\ \text { trineering }}$ |  | ms weel |  |  |  |  |  | ${ }_{\text {coid }}^{\text {food }}$ Seme | Compter |  |  |  |
| ${ }^{15897205 s 113144}$ | veits seath | 70 | 100\% | 710 | 98\% | $520{ }^{51}$ |  |  | - |  | ${ }^{30}$ | 58\% |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Vrasamitemate | 580 | ${ }^{848}$ | 330 | 22\% | ${ }_{450}{ }^{48}$ |  |  |  |  | 300 | 238 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 158870 S5172399 |  | 550 | 79\% | 550 | 77\% | ${ }_{530} 78$ |  |  | $\checkmark$ |  | ${ }_{500}$ | 94* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 158870 Ssalizo7 | Vatal inosate | 370 | ${ }^{188}$ | ${ }^{725}$ | 998 | 510 |  | 255 | 11\% |  |  | $\checkmark$ |  | - |  | ${ }^{525} 768$ |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{158770555545739}$ | vatal Prijopeit | 400 | ${ }^{39 \%}$ | 740 | 99\% | ${ }_{480}{ }^{56}$ |  | ${ }^{45}$ | ${ }^{63 \%}$ |  |  |  |  |  |  |  |  |  |  |  | ${ }_{525} 84 \%$ |  |  |  |  |  |  |
| ${ }^{158770558587998}$ | rogen vatare | ${ }^{385}$ | ${ }^{228}$ | ${ }^{80}$ | $\stackrel{100}{\substack{100}}$ | 455 46 |  | ${ }^{305}$ | ${ }^{20 \%}$ |  |  |  |  |  |  |  |  |  |  |  | ${ }^{445}{ }^{63 \%}$ |  |  |  |  |  |  |
|  | Yogesh wemen | ${ }^{30}$ | 93\% | ${ }^{620}$ | 91\% | (1) |  |  |  |  | ${ }_{460}$ | 87\% |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## II. Statistical Significance (Confidence)

All score distributions generally follow a pattern called the Gaussian curve. The Gaussian curve is by far the most common assumption with regard to score distribution. For the purpose of comparison, we express AMCAT scores as Gaussian distribution. The most characteristic feature of this distribution is that the scores for maximum number of students fall in a very narrow range around the average value.

The percentage of scores lying in the range falls exponentially as we move away from the average value. The confidence percentage, which ranges from $0 \%$ to $100 \%$, is indicative of the possibility that the difference in scores is by chance. A high confidence percentage indicates that it is very likely that the difference observed is real and not by chance. In this analysis, we classify differences, with confidence $90 \%$ or higher, as significantly different (that is, not by chance).

## III. National Average (Norm)

To construct the norms (National average \& standard deviation), balanced sampling was used to select more than 25000 students tested by Aspiring Minds nationwide. Balanced sampling technique ensures that the selected candidates are representative of entry-level job-aspirants over 22 states in India. It is ensured that the sample contains different degrees, specializations, genders, regions, etc. in the same composition as the National distribution.

To summarize score distribution of the norms and Bharatiya Vidya Bhavan's Sardar Patel College Of Engineering students, two values (statistics) are used: average of the scores and standard deviation of the scores. While the former value indicates what, on average, candidates score in the test, the latter value tells how much do scores deviate from the average. High value of standard deviation means that the scores are dissimilar and spread across the scale. In contrast, a low value of standard deviation means that candidates scores are similar to each other and lie near the average.

## IV. Variance (Standard Deviation)

The variance (or standard deviation) is a measure of how spread out a distribution is. In other words, it is the measure of variability. A low standard deviation indicates that the data points tend to be very close to the average value, while high standard deviation indicates that the data is spread out over a large range of values.

## V. About Aspiring Minds

Aspiring Minds was founded in 2007 by alumni of IIT and MIT (USA) with a vision to introduce scientific assessment methodology to bring together job-seekers and campuses across India on a common standardized platform that is recognized by multiple companies on a national level. The aim of Aspiring Minds is to highlight the pool of talented students and progressive campuses to corporates nationally, provide an insight on how they can improve their employability and help them acquire jobs on the basis of their potential. In a short span of time, Aspiring Minds has earned credibility and is working with multiple corporations such as Microsoft Research, HCL Technologies, MPhasiS EDS, Erricson, Tata Motors, Aricent, Genpact, iGATE, L\&T Finance, Sapient, Godrej Agrovet and Tavant Technologies.

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[^0]:    ${ }^{1}$ if confidence level is less than 90\%, it indicates that the difference between Campus Average and National Average is not significant and that both the scores are equivalent.

