

## Foundational [Mathematics and Computer] (Bridge Course)

### Contact Classes [ Min.6 hours Module]

- **Set Theory:** Representation of sets, Subsets and supersets, Universal and Null sets, Basic operations on sets, Venn Diagrams. [1 Hour]
- **Matrix:** Definitions, Different types of matrix, properties of matrices.[1 Hour]
- **Determinant:** Definitions and properties of determinants. [1 Hour]
- **Mean:** Definition of Mean and calculation of mean for discrete and continuous data. [1 Hour]
- **Median:** Definition of Median and calculation of median for discrete and continuous data. [1 Hour]
- **Mode:** Definition of Mode and calculation of mode for discrete and continuous data. [1 Hour]

#### ➤ Spot Assessment & Remedial.

### Reference Books:

1. Kenneth H. Rosen(2021); Discrete Mathematics and its Applications, 8<sup>th</sup> Edition, Tata Mc Graw Hill Publishers.
2. Seymour Lipschutz, M.Lipson(2009): Discrete Mathematics- Schaum's Outline Series, 3rd Edition, Tata Mc Graw Hill Publishers.
3. N.G. Das: Statistical Methods (Volume I): Tata McGraw-Hill.
4. A.M. Goon, M.K. Gupta & B. Dasgupta: Fundamentals of Statistics, Vol. I & II, 8th Edn. The World Press, Kolkata.
5. G. C. Beri: Statistics for Management: Tata McGraw- Hill.
6. B. Jhunjhunwala: Business Statistics, S. Chand Publishing.
7. V.K. Kapoor & S.C. Gupta: Fundamentals of Mathematical Statistics, Sultan Chand & Sons.

## Self-Placed Learning [ Min. 20 hours Module]

### Online Resources

1. <https://www.youtube.com/watch?v=XbCBbJncfGE> (Representation & Types of Sets, 1 Hours 04 Mins.)
2. <https://www.youtube.com/watch?v=i03KGyeaYrY> (Subsets, Power Sets, 56 Mins.)
3. <https://www.youtube.com/watch?v=PjVCenWEfv4&list=RDCMUCiGyWN6DEbnj2alu7ia puKQ&index=3> (Basic operations on sets, 52 Mins.)
4. <https://www.youtube.com/watch?v=DVJndtX2upg> (Venn Diagram, 29 Mins.)
5. <https://www.youtube.com/watch?v=34Yfd40xbZU> (Meaning of Measure of Central Tendency, 41 Mins.)
6. <https://www.youtube.com/watch?v=tpCarWpjnJw> (Requisites of Average, 34 Mins.)
7. <https://www.youtube.com/watch?v=-b-zg-ZCYJc> (Arithmetic Mean, 33 Mins.)
8. <https://www.youtube.com/watch?v=iwmMM7SLq2U> (Meaning of Median, 15 Mins.)
9. <https://www.youtube.com/watch?v=QJsnOyQ0PMY> (Individual Series: Median, 40 Mins.)
10. <https://www.youtube.com/watch?v=l-J4LFpDv3k> (Discrete Series: Median, 25 Mins.)
11. <https://www.youtube.com/watch?v=H8ethbxsDr8> (Continuous Series: Median, 39 Mins.)
12. [https://www.youtube.com/watch?v=ANS\\_bFjVLMw](https://www.youtube.com/watch?v=ANS_bFjVLMw) (Concept of Mode, 22 Mins.)
13. <https://www.youtube.com/watch?v=8mG7kM2ZZRg> (Mode in Individual Series, 26 Mins.)
14. [https://www.youtube.com/watch?v=kFEypfv\\_E98](https://www.youtube.com/watch?v=kFEypfv_E98) (Mode in Discrete Series, 54 Mins.)
15. <https://youtu.be/3ROzG6n4yMc> (Determinant of 2x2 matrices 10mins)
16. <https://www.bing.com/videos/riverview/relatedvideo?&q=matrix+determinant+study+material+you+tube+video&&mid=8F89BF67166B4DC48F038F89BF67166B4DC48F03&&FORM=VRDGAR> (Determinant of 3x3 matrices 11mins)
17. <https://www.youtube.com/watch?v=aN63KeWYh2I> (Matrix & Determinant 1hour 11mins)
18. <https://www.bing.com/videos/riverview/relatedvideo?&q=matrix+determinant+study+material+you+tube+video&&mid=DE9D5F09BBB68921231FDE9D5F09BBB68921231F&&FORM=VRDGAR> (Matrix & Determinant 5hours 51mins)
19. <https://youtu.be/NGGkOa35Sm8> (Finding the Center of a Data Set. Mean, Median, Mode 1hr 12 mins)
20. <https://youtu.be/TLwp5DwcqD4> ( Introduction to statistics 23mins)

21. <https://www.youtube.com/watch?v=uqEKroQ0UpY> (Meaning, Scope and Importance of Statistics, 25 Mins.)

22. <https://youtu.be/rS9AwyRbB7g> ( Introduction to Matrices and Determinants 1hr 32mins)

23. <https://youtu.be/NRXzd2wUGYU> (Matrix & Determinant 56 mins)

24. <https://youtu.be/0OJGV1zlnXY> (Properties Of Determinant 20 Mins)

- COMMON Academic Orientation and Doubt Clearing Session

**(4 hours )**