

# ST. THOMAS' COLLEGE (AUTONOMOUS), THRISSUR

## DEPARTMENT OF DATA SCIENCE

### SYLLABUS FOR BRIDGE COURSE (2019-2020)

NB:

- The syllabus and questions for 'Reasoning & Logical Ability' and 'Communication Skills & Language Aptitude' is attached herewith.
- Each department is requested to complete the syllabus and question paper for the bridge course with questions from respective disciplines and return to the Coordinator of Students' Induction Programme.
- The faculty is requested to maintain the confidentiality of question paper.

#### Reasoning & Logical Ability

Verbal reasoning, letter and symbol series, verbal classification, logical reasoning etc.

#### Communication Skills & Language Aptitude

Module I: Communication – introduction – in animals, including human beings.

Human Communication: purpose (ideas, feelings, data...)

Communication: oral, written and visual.

Module II: Oral: way of speech – formal / informal – formal: formal settings (official)- informal: between/among peers.

Written: all forms of writing letters: business, official, minutes, applications, notifications, certificates etc.

Visual: pictures, graphs, charts, signs, hoardings, posters, maps, photographs etc.

Audio-visual: sound and visuals.

Module III: Non-verbal Communication: 1) Body language (emotions, feelings, eye contact, gestures, posture etc.) (2) Paralanguage: pitch, intonation, stress etc.

#### Syllabus of Core & Complementary Course

##### Computer Science


Fundamentals of Computers – Fundamentals of Operating System – Data – Information – Database – Database Management System – Fundamentals of Networking.

##### Mathematics

Matrix(Addition, Multiplication for  $2 \times 2$  matrix)- Types of matrices- Inverse of a matrix ( $2 \times 2$  matrix)

##### Statistics

Basis & Statistics- Probability- Population & Sample- Correlation

 RETIN VARGHESE



# ST. THOMAS' COLLEGE (AUTONOMOUS), THRISSUR

## DEPARTMENT OF DATA SCIENCE

Bridge Course Evaluation 2019-2020

No of Questions: 30

Marks: 60

### Section I Reasoning & Logical Ability (7)

1. Find the next term of the series 1,5,11,19, ...  
(a)32 (b)28 (c)29 (d)33.
2.  $234 \times 0 \times 11 \times 22 =$   
(a)555 (b)0 (c)310 (d)None of these.
3. Find the odd one out.  
(a)Rabbit (b) Cat (c)Elephant (d)Deer.
4. A fruit basket contains more apples than lemons.  
There are more lemons in the basket than there are oranges.  
The basket contains more apples than oranges.  
If the first two statements are true, the third statement is  
(a)True (b) False (c) Need not be true (d) None of these
5. Choose an answer based on given information:  
"When they heard news of the hurricane, Maya and Julian decided to change their vacation plans. Instead of traveling to the island beach resort, they booked a room at a fancy new spa in the mountains. Their plans were a bit more expensive, but they'd heard wonderful things about the spa and they were relieved to find availability on such short notice".  
(a)Maya and Julian take beach vacations every year  
(b)The spa is overpriced.  
(c)It is usually necessary to book at least six months in advance at the spa.  
(d)Maya and Julian decided to change their vacation plans because of the hurricane.
6. Which word does NOT belong with the others?  
(a)Tyre.(b)Steering wheel (c)Engine(d)Car
7. Fill the blank in the end of the series.  
FAG, GAF, HAI, IAH, \_\_\_\_  
(a)JAK.(b)HAL (c)MAN(d)PAQ

### Section II Communication Skills & Language Aptitude (5)

8. ....is the act of expressing ideas, feelings, and transferring data to others.  
a) music b) communication c) pronunciation d) transformation
9. Greetings, chats and casual conversations are generally considered ..... communication.  
a) informal b) formal c) official d) structural
10. The branch of linguistics that comprises the study of the sounds of human speech is.....  
a) kinetics b) appendix c) cybernetics d) phonetics
11. ....is the way human body communicates through its physical movements and changes in demeanour.  
a) proxemics b) sign language c) body language d) arbitrariness
12. The particular feature of human language to refer to past and future time is called .....  
a) displacement b) reflexivity c) creativity d) duality



### Section III Questions from Qualifying Course

(10)

13. The inverse of a matrix  $A = \begin{bmatrix} 2 & 3 \\ 4 & 5 \end{bmatrix}$  is

- a)  $\begin{bmatrix} -5 & 3 \\ 4 & -2 \end{bmatrix}$
- b)  $\begin{bmatrix} 5 & -3 \\ -4 & 2 \end{bmatrix}$
- c)  $\begin{bmatrix} -5/2 & 3/2 \\ 2 & -1 \end{bmatrix}$
- d) The inverse does not exist

14. If  $A = \begin{bmatrix} \cos \theta & \sin \theta \\ \sin \theta & -\cos \theta \end{bmatrix}$  is an orthogonal matrix, then its inverse is

- a) Does not exist
- b)  $\begin{bmatrix} \cos \theta & \sin \theta \\ \sin \theta & -\cos \theta \end{bmatrix}$
- c)  $\begin{bmatrix} -\cos \theta & \sin \theta \\ \sin \theta & \cos \theta \end{bmatrix}$
- d)  $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$

15.  $(A^T)^T = \dots\dots\dots$

- a)  $A^T$
- b)  $A^T A$
- c)  $A$
- d)  $AA^T$

16. Which of the following is not correct ?

- a)  $\text{Trace}(AB) = \text{Trace}(BA)$
- b)  $\det(AB) = \det(A) \cdot \det(B)$
- c) If  $A$  is symmetric  $A = -A^T$
- d) If  $A$  is symmetric  $A = A^T$

18. If  $A = \begin{bmatrix} 2 & 5 \\ 7 & 8 \end{bmatrix}$  and  $B = \begin{bmatrix} -1 & 2 \\ 6 & 9 \end{bmatrix}$  then  $A + B = ?$

18. First step in the definition of Statistics is.....

19. Population is denoted as.....

- a) n
- b) N
- c) M
- d) m

20. Representation of population is known as.....

21. In which of the fields that we can apply Statistics is.....

- a) Insurance
- b) Banking
- c) Business
- d) All the above

22. Write the 4 steps in the definition of Statistics

### Section IV Questions from Introductory Topics of UG

(8)

23 ..... Is an interface between user and computer hardware.

- a) Operating System
- b) Software
- c) Hardware
- d) Network

24. Processed data is known as .....

- a) Data
- b) Information
- c) Program
- d) Instruction

- Interconnection between autonomous computers is known as .....
- a) Software      b) Networking   c) LAN      d) Hardware
- 26). A variable is accessed by using .....
- a) Index      b) Address      c) name      d) datatype.
- 27). ..... Is known as temporary storage location in a computer.
- a) Array      b) Variable      c) Structure      d) Address
- 28). Array index is starting with .....
- a) 1      b) 0      c) 2      d) -1
- 29). A row facts and figures is known as .....
- a) information      b) Data      c) Variable      d) Array
- 30). Choose odd one out.
- a) Windows      b) Linux      c) Nexus      d) Fedora.



REGIM VARGHESE





**ST. THOMAS' COLLEGE (AUTONOMOUS), THRISSUR**  
**B.VOC DATA SCIENCE**

**1st semester Bridge Course mark list**

Sl.No.	Name of Student	Amount	Category
1	IRENE ROSE JOHNSON	52	Good
2	RENJITH P DEVADAS	52	
3	JIJO JOHNSON	52	
4	JOYAL CHRISTY	50	
5	ABHINAV	50	
6	KAVYA M.V	50	
7	AVINASH ARYAN	48	
8	KASINATH S	46	Average
9	ANAND P.M	46	
10	GODWIN C.X	46	
11	REJINALD	46	
12	ABHISHEK JOHN K.S	46	
13	GAYATHRI B.R	46	
14	JOSEPH BAIJU	44	
15	SREEHARI T.R	44	
16	HARSHITHA T.S	44	
17	ROYSON SUNNY	42	
18	DELNA A.J	40	
19	JITHIN P.O	36	Slow Learner
20	SANJAY VARGHESE	30	

*(Signature)*

REJIN VARGHESE

