

ST. THOMAS' COLLEGE (AUTONOMOUS), THRISSUR

DEPARTMENT OF MATHEMATICS

SYLLABUS FOR BRIDGE COURSE

B. Sc. Mathematics (Statistics & Physics) (2019-2020)

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:

Mathematics:

Module I: Limit, continuity, differentiation and integration.

Module II: LCM and GCD

Statistics:

Data, graphical method, measure of central tendency, dispersion, skewness, kurtosis, basic probability.

Physics:

Introductory ideas of Rectifier, Transistors, Logic gates, Modulation, Types of modulation-AM, FM, demodulation.

ST. THOMAS' COLLEGE (AUTONOMOUS), THRISSUR

DEPARTMENT OF MATHEMATICS (A BATCH)

Bridge Course Evaluation 2019-2020

No of Questions: 30

Marks: 60

Section I Reasoning & Logical Ability (7)

- Find the next term of the series 1,5,11,19, ...
(a)32 (b)28 (c)29 (d)33.
- $234 \times 0 \times 11 \times 22 =$
(a)555 (b)0 (c)310 (d)None of these.
- Find the odd one out.
(a)Rabbit (b) Cat (c)Elephant (d)Deer.
- 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
- 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.
- Which word does NOT belong with the others?
(a)Tyre.(b)Steering wheel (c)Engine(d)Car
- 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)

-is the act of expressing ideas, feelings, and transferring data to others.
a) music b) communication c) pronunciation d) transformation
- Greetings, chats and casual conversations are generally considered communication.
a) informal b) formal c) official d) structural
- The branch of linguistics that comprises the study of the sounds of human speech is.....
a) kinetics b) appendix c) cybernetics d) phonetics
-is the way human body communicates through its physical movements and changes in demeanour.
a) proxemics b) sign language c) body language d) arbitrariness
- 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. If $A = \{\emptyset, \{\emptyset\}\}$ then power set of A is
 (a) $\{\emptyset, \{\emptyset\}, A\}$ (b) $\{\emptyset, \{\{\emptyset\}\}, A\}$ (c) $\{\emptyset, \{\emptyset\}, \{\{\emptyset\}\}, A\}$ (d) $\{\emptyset, \{\emptyset\}\}$.
14. If $A = \{1, 2, 3\}$, $B = \{a, b\}$. Then $n(A \times B)$ is
 (a) 5 (b) 3 (c) 2 (d) 6.
15. The domain of the function $f(x) = \frac{1}{\sqrt{4-x^2}}$ is
 (a) $[-2, 2]$ (b) $(-\infty, 2) \cup (2, \infty)$ (c) $(-2, 2)$ (d) $(-\infty, \infty)$.
16. Range of $\cos x$ is
 (a) $[-1, 1]$ (b) $(-1, 1)$ (c) $(-\infty, \infty)$ (d) $(0, \infty)$.
17. $\lim_{x \rightarrow 0} \frac{x^2}{x} =$
 (a) does not exist (b) 0 (c) 1 (d) ∞ .
18. $\lim_{x \rightarrow 0} x \sin x =$
 (a) 1 (b) 0 (c) does not exist (d) 2.
19. The function $f(x) = \frac{x^2+1}{x^2-1}$ is not continuous at
 (a) 0 (b) 1 (c) -1 (d) 1, -1.
20. $\frac{d}{dx}(\sin x^2) =$
 (a) $\sin 2x$ (b) $\cos x^2$ (c) $-\cos x^2$ (d) $2x \cos x^2$.
21. $\frac{d}{dx}(x \sin x) =$
 (a) $x \cos x$ (b) $x \cos x + \sin x$ (c) $-\cos x + x$ (d) $\cos x$.
22. $\int_{-2}^2 x^9 dx =$
 (a) 0 (b) 23 (c) 1 (d) 26.

Section IV Questions from Introductory Topics of UG (8)

23. $\int x \sin x dx =$
 (a) $x \cos x + \cos x + c$ (b) $\cos x - x \cos x + c$ (c) $\cos x + c$ (d) $\sin x + c$.
24. The number of primes less than 25 =
 (a) 5 (b) 11 (c) 10 (d) 9.
25. Find the gcd of the numbers 23 and 49.
 (a) 5 (b) 3 (c) 1 (d) 6.
26. Find the lcm of 75 and 100
 (a) 750 (b) 300 (c) 150 (d) 600.
27. Three ripple factor of half wave rectifier is.....
 (a) 2 (b) 1.21 (c) 2.5 (d) 0.48.
28. In a pnp transistor, the current carrier are
 (a) acceptor ions (b) donor ions (c) free electrons (d) holes
29. Two ogive curves meets at
 (a) mean (b) median (c) mode (d) variance
30. A data can be use from a past study is known as
 (a) Primary data (b) Qualitative data (c) Secondary data (d) Quantitative data.

Dept. Of Mathematics

Bridge Course Evaluation 2019-20

B. Sc. Mathematics (Statistics & Physics)

Sl No	Name	Score out of 60
1	ABHIJITH P J	30
2	AMAL I S	56
3	ANGEL V D	44
4	ANITTA FIJOSH	48
5	ANSON K S	42
6	ARJUNAN K	50
7	ATHIDH KASYAP G	46
8	BLAZE JOY A	44
9	EBIN P B	48
10	MALAVIKA A WARIER	44
11	MERIN VENUS	50
12	NANDITHA P G	46
13	NEELAMBARI S.	44
14	PREETHY BABU	34
15	SANIKA ABHAYADEV	48
16	SHIFFA T S	30
17	SNEJOE TOJU	50
18	SONA BIJU	42
19	SONA BINU	36
20	SOURAV GOVIND P	44
21	SREELAKSHMI P S	44
22	SREERAJ P SATHEESH	32
23	SURYAGAYATHRI M R	44
24	ULLAS K U	46
25	VISHNUPRIYA K	52
26	SAJIN JOHNSON	26
27	SAJIN PS	34
28	CLINT K WILSON	44
29	AMAL KC	36
30	JAIN ROY P	34
31	SIJO JOSE C	38
32	ALEN ANTONY	28

HOD: Vincent Joseph Pulikkottil

Class Teacher: Pratheesh George

P. J. Vincent
Pratheesh
20/6/19

Dept. Of Mathematics

Bridge Course Evaluation 2019-20

B. Sc. Mathematics (Statistics & Physics)

ADVANCED LEARNERS	AVERAGE LEARNERS	SLOW LERNERS
AMAL I S	ANGEL V D	ABHIJITH P J
ANITTA FIJOSH	ANSON K S	PREETHY BABU
ARJUNAN K	ATHIDH KASYAP G	SHIFFA T S
EBIN P B	BLAZE JOY A	SREERAJ P SATHEESH
MERIN VENUS	MALAVIKA A WARIER	SAJIN JOHNSON
SANIKA ABHAYADEV	NANDITHA P G	SAJIN PS
SNEJOE TOJU	NEELAMBARI S.	JAIN ROY P
VISHNUPRIYA K	SONA BIJU	ALEN ANTONY
	SONA BINU	
	SOURAV GOVIND P	
	SREELAKSHMI P S	
	SURYAGAYATHRI M R	
	ULLAS K U	
	CLINT K WILSON	
	AMAL KC	
	SIJO JOSE C	

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