Gate paper 2023-XH

Ayush Sunil Labhade

AI25Btech11002

Humanities and Social Sciences-Linguistics (XH-C3)

General Aptitude (*GA*)

Q.1 - Q.5 Carry ONE mark each

1. Rafi told Mary, "I am thinking of watching a film this weekend." The following reports the above statement in indirect speech: Rafi told Mary that he _____ of watching a film that weekend.

    (a) thought

    (b) is thinking

    (c) am thinking

    (d) was thinking

    (*GATE XH* 2023)

2. Permit : _____ :: Enforce : Relax (*Bywordmeaning*)

    (a) Allow   (b) Forbid   (c) License   (d) Reinforce

    (*GATE XH* 2023)

3. Given a fair six-faced dice where the faces are labelled '1', '2', '3', '4', '5', and '6', what is the probability of getting a '1' on the first roll of the dice and a '4' on the second roll?

    (a) $\frac{1}{36}$ (b) $\frac{1}{6}$ (c) $\frac{5}{6}$ (d) $\frac{1}{3}$

    (*GATE XH* 2023)

4. A recent survey shows that 65Based only on the information in the above passage, which one of the following options can be logically inferred with certainty?

    (a) A majority of tobacco users who were advised to stop consuming tobacco made an attempt to do so.

    (b) A majority of tobacco users who were advised to stop consuming tobacco did not attempt to do so.

(c) Approximately 30

(d) Approximately 65

5. How many triangles are present in the given figure?

Figure 1

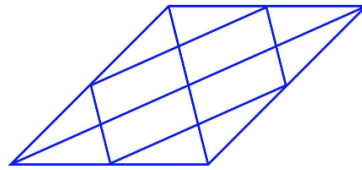(a) 12   (b) 16   (c) 20   (d) 24

Q.6- Q.10 Carry TWO marks Each

6. Students of all the departments of a college who have successfully completed the registration process are eligible to vote in the upcoming college elections. However, by the time the due date for registration was over, it was found that surprisingly none of the students from the Department of Human Sciences had completed the registration process. Based only on the information provided above, which one of the following sets of statement(s) can be logically inferred with certainty?

   (i) All those students who would not be eligible to vote in the college elections would certainly belong to the Department of Human Sciences.

   (ii) None of the students from departments other than Human Sciences failed to complete the registration process within the due time.

   (iii) All the eligible voters would certainly be students who are not from the Department of Human Sciences.

   (a) (i) and (ii)   (b) (i) and (iii)   (c) only (i)   (d) only (iii)

   (*GATE XH* 2023)

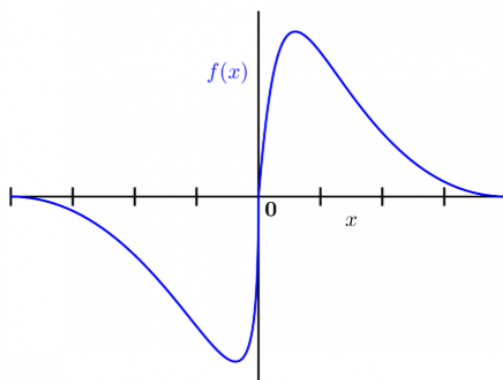7. Which one of the following options represents the given graph?

Figure 2

(a) $f(x) = x^2 2^{-|x|}$ (b) $f(x) = x2^{-|x|}$ (c) $f(x) = |x|2^{-x}$ (d) $f(x) = x2^{-x}$

8. Which one of the options does NOT describe the passage below or follow from it? We tend to think of cancer as a 'modern' illness because its metaphors are so modern. It is a disease of overproduction, of sudden growth, a growth that is unstoppable, tipped into the abyss of no control. Modern cell biology encourages us to imagine the cell as a molecular machine. Cancer is that machine unable to quench its initial command (to grow) and thus transform into an indestructible, self-propelled automaton. [*Adapted from The Emperor of All Maladies by Siddhartha Mukherjee*]

   (a) It is a reflection of why cancer seems so modern to most of us.

   (b) It tells us that modern cell biology uses and promotes metaphors of machinery.

   (c) Modern cell biology encourages metaphors of machinery, and cancer is often imagined as a machine.

   (d) Modern cell biology never uses figurative language, such as metaphors, to describe or explain anything.

9. The digit in the unit's place of the product $3^{999} \times 7^{1000}$ is

   (a) 7　　　　(b) 1　　　　(c) 3　　　　(d) 9

10. A square with sides of length 6 cm is given. The boundary of the shaded region is defined by two semi-circles whose diameters are the sides of the square, as shown. The area of the shaded region is ____ cm^2.
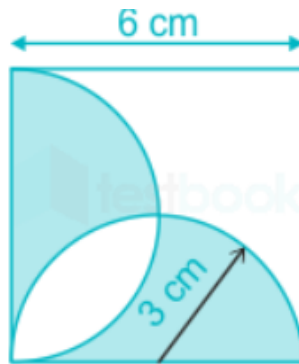
Figure 3

(a) 6π (b) 18   (c) 20   (d) 9π

(*GATE XH* 2023)

Reasoning and Comprehension(XH-B1)
XH-B1:Q11-Q17 Carry ONE mark Each

11. Which word below best describes the idea of being both *Spineless* and *Cowardly*?

    (a) Pusillanimous   (c) Obsequious

    (b) Unctuous   (d) Reticent

    (*GATE XH* 2023)

12. Choose the right preposition to fill up the blank: The whole family got together _____ Diwali

    (a) of   (b) at   (c) in   (d) till

    (*GATE XH* 2023)

13. Select the correct option to fill in all the blanks to complete the passage: The (i) _____ factor amid this turbulence has been the (ii) _____ of high-octane, action-oriented films such as RRR, K.G.F: Chapter 2 and Pushpa from film industries in the south of the country. Traditionally, films made in the south have done well in their own (iii) _____. But increasingly, their dubbed versions have performed well in the Hindi heartland, with collections (iv) _____ those of their Bollywood counterparts.

    (a) (i) disheartening (ii) failure (iii) channels (iv) matching
    (b) (i) redeeming (ii) outperformance (iii) geographies (iv) eclipsing
    (c) (i) shocking (ii) underperformance (iii) cinemas (iv) below
    (d) (i) humbling (ii) bombing (iii) theatres (iv) falling behind

    (*GATE XH* 2023)

14. The following passage consists of 6 sentences. The first and sixth sentences of the passage are at their correct positions, while the middle four sentences (represented by 2, 3, 4, and 5) are jumbled up. Choose the correct sequence of the sentences so that they form a coherent paragraph:

    1. Most obviously, mobility is taken to be a geographical as well as a social phenomenon.

2. Much of the social mobility literature regarded society as a uniform surface and failed to register the geographical intersections of region, city and place, with the social categories of class, gender and ethnicity.

3. The existing sociology of migration is incidentally far too limited in its concerns to be very useful here.

4. Further, I am concerned with the flows of people within, but especially beyond, the territory of each society, and how these flows may relate to many different desires, for work, housing, leisure, religion, family relationships, criminal gain, asylum seeking and so on.

5. Moreover, not only people are mobile but so too are many 'objects'.

6. I show that sociology's recent development of a 'sociology of objects' needs to be taken further and that the diverse flows of objects across societal borders and their intersections with the multiple flows of people are hugely significant.

(a) 3,2,5,4   (b) 2,3,4,5   (c) 5,4,3,2   (d) 4,2,5,3

15. The population of a country increased by 5% from 2020 to 2021. Then, the population decreased by 5% from 2021 to 2022. By what percentage did the population change from 2020 to 2022?

(a) -0.25%   (b) 0%   (c) 2.5%   (d) 10.25%

16. The words **Thin: Slim: Slender** are related in some way. Identify the correct option(s) that reflect(s) the same relationship:

(a) Fat: Plump: Voluptuous   (c) Tall: Taller: Tallest
(b) Short: Small: Petite   (d) Fair: Dark: Wheatish

17. A pandemic like situation hit the country last year, resulting in loss of human life and economic depression. To improve the condition of its citizens, the government made a series of emergency medical interventions

and increased spending to revive the economy. In both these efforts, district administration authorities were actively involved. Which of the following action(s) are plausible?

(a) In future, the government can make district administration authorities responsible for protecting health of citizens and reviving the economy.

(b) The government may set up a task force to review the post pandemic situation and ascertain the effectiveness of the measures taken.

(c) The government may set up a committee to formulate a pandemic management program to minimize losses to life and economy in future.

(d) The government may take population control measures to minimize pandemic related losses in future.

<div align="right">(GATE XH 2023)</div>

XH-B1:Q18-Q26 Carry TWO marks Each

18. Six students, Arif, Balwinder, Chintu, David, Emon and Fulmoni appeared in the GATE-XH exam in 2022. Balwinder scores less than Chintu in XH-B1, but more than Arif in XH-C1. David scores more than Balwinder in XH-C1, and more than Chintu in XH-B1. Emon scores less than David, but more than Fulmoni in XH-B1. Fulmoni scores more than David in XH-C1. Arif scores less than Emon, but more than Fulmoni in XH-B1. Who scores highest in XH-B1?

   (a) Fulmoni   (b) Emon   (c) David   (d) Chintu

19. Select the correct relation between E and F.

$$E = \frac{x}{1+x} \quad \text{and} \quad F = \frac{-x}{1-x} \quad x > 1$$

   (a) $E > F$ (b) $E < F$ (c) $E = F$ (d) $E < -F$

20. A code language is formulated thus: Vowels in the original word are replaced by the next vowel from the list of vowels, A-E-I-O-U (For example, E is replaced by I and U is replaced by A). Consonants in the original word are replaced by previous consonant (For example, T is replaced by S and V is replaced by T). Then how does the word, GOODMORNING appear in the coded language?

   (a) HUUFNUSPOPH   (c) FUUCLUQMOMF

   (b) FIICLIQMEMF   (d) HEEDATTACRH

21. The stranger is by nature no "owner of soil" – soil not only in the physical, but also in the figurative sense of a life-substance, which is fixed, if not in a point in space, at least in an ideal point of the social environment. Although in more intimate relations, he may develop all kinds of charm and significance, as long as he is considered a stranger in the eyes of the other,

he is not an "owner of soil." Restriction to intermediary trade, and often (as though sublimated from it) to pure finance, gives him the specific character of mobility. If mobility takes place within a closed group, it embodies that synthesis of nearness and distance which constitutes the formal position of the stranger. For, the fundamentally mobile person comes in contact, at one time or another, with every individual, but is not organically connected, through established ties of kinship, locality, and occupation, with any single one. What assumptions can be made about the stranger from the passage above?

(a) The stranger can become an owner of soil through developing all kinds of charm in more intimate relations.

(b) The stranger cannot become an owner of soil either in the physical or psychological sense.

(c) The stranger can become an owner of soil through establishing ties of kinship and so on.

(d) The stranger might become an owner of soil in the physical sense but not in the psychological.

(*GATE XH* 2023)

22. L is the only son of A and S. S has one sibling, B, who is married to L's aunt, K. B is the only son of D. How are L and D related? Select the possible option(s):

(a) Grandchild and Paternal Grandfather

(b) Grandchild and Maternal Grandfather

(c) Grandchild and Paternal Grandmother

(d) Grandchild and Maternal Grandmother

(*GATE XH* 2023)

23. Five segments of a sentence are given below. The first and fifth segments are at their correct positions, while the middle three segments (represented by 2, 3, and 4) are jumbled up. Choose the correct order of the segments so that they form a coherent sentence:

1. Consumed multitudes are jostling and shoving inside me

2. and guided only by the memory of a large white bedsheet with a roughly circular hole some seven inches in diameter cut into the center,

3. clutching at the dream of that holey, mutilated square of linen, which is my talisman, my open-sesame,

4. I must commence the business of remaking my life from the point at which it really began,

5. some thirty-two years before anything as obvious, as present, as my clock-ridden, crime-stained birth.

(a) 2-3-4 (b) 3-2-4 (c) 4-2-3 (d) 4-3-2

(GATE XH 2023)

24. "I told you the truth," I say yet again, "Memory's truth, because memory has its own special kind. It selects, eliminates, alters, exaggerates, minimizes, glorifies, and vilifies also; but in the end it creates its own reality, its heterogeneous but usually coherent versions of events; and no sane human being ever trusts someone else's version more than his own." What are the different ways in which 'truth' can be understood from the passage?

    (a) Truth is what can be verified by hard empirical evidence.
    (b) Truth is based on what can be perceived by the senses.
    (c) Truth is the product of memory that is fallible, selective and slanted.
    (d) Truth is contingent on the observer and can only be partial.

(GATE XH 2023)

25. A firm needs both skilled labour and unskilled labour for the production of cloth. The wage of skilled labour is Rs. 40,000 per month, and that of unskilled labour is Rs. 15,000 per month. The total wage bill of the firm for the production of cloth is Rs. 23,75,000 in a month for 100 labour. How many skilled labour are employed by the firm (in Integer)? *(GATE XH 2023)*

26. Select the odd word and write the option number as answer: (1) Lek (2) Zloty (3) Diner (4) Drachma (5) Real *(GATE XH 2023)*

Linguistics – C3
XH-C3: Q.27 – Q.44 Carry ONE mark Each

27. In a writing system, if each unique grapheme represents a unique morpheme/word, the writing system is known as _____.

    (a) Logographic (b) Syllabic   (c) Abugida   (d) Moraic

    (*GATE XH* 2023)

28. If an SOV language allows movement to OSV and VSO word orders, the resulting word order will be known as:

    (a) Unmarked   (c) Ungrammatical

    (b) Marked   (d) Default

    (*GATE XH* 2023)

29. The phenomenon where 'missed hotel' is pronounced as 'hissed motel' is known as _____.

    (a) Agrammatism   (c) Spoonerism

    (b) Wernicke's aphasia   (d) Malapropism

    (*GATE XH* 2023)

30. When new information is introduced in a communication, such information is classified as _____.

    (a) Focus   (b) Topic   (c) Presupposition (d) Theme

    (*GATE XH* 2023)

31. What type of morphological process is involved in the expression 'English vinglish'

    (a) Complete reduplication   (c) Prefixation

    (b) Partial reduplication   (d) Suffixation

    (*GATE XH* 2023)

32. Which one of the following is a language isolate?

(a) Burushashki (b) Mundari   (c) Angami   (d) Kalasha

33. Which of the following Dravidian language is spoken in Pakistan?

   (a) Konda   (b) Kuvi   (c) Toda   (d) Brahui

34. Which word-order pair is the most common in world's languages?

   (a) SVO-SOV   (b) SOV-VSO   (c) VSO-VOS   (d) SOV-VOS

35. Which type of morphological process is involved in creating catty from cat?

   (a) Inflection   (b) Derivation   (c) Suppletion   (d) Reduplication

36. Devanagari organizes the consonant graphemes as shown in the image. What is the parameter by which the following two rows differ?

क   ख   ग   घ   ङ
/k/   /k^h/   /g/   /g^h/   /ŋ/

प   फ   ब   भ   म
/p/   /p^h/   /b/   /b^h/   /m/

Figure 4

(a) Voicing   (c) Place of articulation
(b) Manner of articulation   (d) Aspiration

37. Which option is related to Neo-Whorfism?

(a) Language, thought, worldview

(b) Innateness, deep-structure, surface-structure

(c) Language, methods, analysis

(d) Signifier, signified, sign

38. Which of the following is/are involved in the comparative method for establishing language families and genetic relationship among languages?

(a) Reconstruction of the proto language

(b) Assembling a list of cognates

(c) Strictly using basic vocabulary lists

(d) Setting up sound correspondences

39. Aphasia can be caused by

(a) Open or closed head trauma

(b) Attention deficit

(c) Neurodegeneration in advanced age

(d) Lack of motivation

40. In sociolinguistics, the term 'anti-language' refers to the language used for

(a) Academic purposes by professional criminologists

(b) Legal proceedings in the court of law

(c) Communication by small non-mainstream groups

(d) Communication between caregivers and infants

41. In language policy making, which of the following steps is/are necessary for an erstwhile minority language, spoken by a sizeable population, to be introduced as a medium of instruction in schools?

(a) Language revival

(b) Corpus planning

(c) Status planning

(d) Language preservation

42. Which of the following research methods involve Reaction Time?

(a) Behavioral methods

(b) Experimental methods

(c) Non-behavioral methods

(d) Qualitative methods

43. If $[p]$ and $\left[p^h\right]$ are allophones of the same phoneme /p/, which of the following statements is/are true?

(a) $[p]$ and $\left[p^h\right]$ are in contrastive distribution

(b) $[p]$ and $\left[p^h\right]$ are in complementary distribution

(c) $\left[p^h\right]$ has more restrictive occurrence than $[p]$

(d) $[p]$ and $\left[p^h\right]$ can be used interchangeably

44. Which of the following show(s) dissociation between cognitive disorder and language abilities?

(a) Autism spectrum disorder

(b) Williams syndrome

(c) Dyslexia

(d) Specific Language Impairment (SLI)

XH-C3: Q.45 – Q.65 Carry TWO marks Each

45. Which of the following sound pairs differ from each other in exactly two articulatory parameters?

    (a) $[p]$ vs. $[b]$ (c) $[v]$ vs. $[\theta]$

    (b) $[t]$ vs. $[s]$ (d) $[n]$ vs. $[d]$

    (GATE XH 2023)

46. The cover term determiner refers to:

    (a) Articles, demonstratives, and possessors

    (b) Possessors, prepositions, and demonstratives

    (c) Postpositions, articles, and prepositions

    (d) Articles, prepositions, and possessors

    (GATE XH 2023)

47. In 'John seems to have left', the subject John has undergone:

    (a) Subject-to-Subject lowering

    (b) Object-to-Subject raising

    (c) Subject-to-Subject raising

    (d) Object-to-Object lowering

    (GATE XH 2023)

48. The comparative and superlative forms of the adjective 'good' are examples of:

    (a) Alternation   (c) Ablaut

    (b) Syncope   (d) Suppletion

    (GATE XH 2023)

49. Consider the following question and determine where was is moved finally, in accordance with the minimalist assumptions: Was John, who wrote the book, angry?

(a) T to C   (c) V to T

(b) C to T   (d) T to V

50. Match the following historical sound changes in Column X with the processes in Column Y

Column X	Column Y
P. rūpa → rūp	1. Grassmann's law
Q. sapta → satta	2. Apocope
R. bʰodʰa → bodʰa	3. Assimilation
S. saṃkalana → saṅkalana	4. Compensatory lengthening

Table 1

(a) P-2, Q-4, R-1, S-3

(b) P-4, Q-2, R-1, S-3

(c) P-2, Q-1, R-4, S-3

(d) P-2, Q-4, R-3, S-1

51. Consider the following morphological break-up of pfeifing produced by a simultaneous bilingual child. What phenomenon does this example indicate?

pfeife + ing → pfeifing

whistle (German) + progressive (English) → 'whistling'

(a) Code-mixing arising out of social bilingualism

(b) Code-switching based on context of the conversation

(c) Understanding both languages as part of a single 'system'

(d) Mixed language arising out of pedagogical preferences

52. Which one of the following is compounding of compounded words?

(a) Lighthouse tower (c) Boyfriend

(b) Skating board (d) Walkman

53. What sociolinguistic phenomenon does the following sentence exemplify?

la	fam	**micimine:w**	li	pci
the(*fem.*)	woman	**she-is-holding-it**	the (*masc.*)	little-one
French	French	**Cree**	French	French

"The woman is holding the child"

(a) Code switching (c) Pidgin

(b) Bilingualism (d) Mixed language

54. Identify the labels for X and Y in the following tree.

Figure 5

(a) X: Verb, Y: Adjectivei

(b) X: Adjective, Y: Adjective

(c) X: Adjective, Y: Verb

(d) X: Verb, Y: Verb

55. From the following, which is the correct order of animacy hierarchy?

(a) 1st/2nd Person > 3rd Person > Proper Name > Human Noun

(b) 3rd Person > 1st/2nd Person > Proper Name > Human Noun

(c) 3rd Person > 1st/2nd Person > Human Noun > Proper Name

(d) 1st/2nd Person > 3rd Person > Human Noun > Proper Name

56. Look at the adjectives in Column X and match with the types of adjectives in Column Y. Choose the correct option.

Column X	Column Y
P. Blue shirt	1. Subsective
Q. Fake Picasso	2. Intersective
R. Big elephant	3. Anti-intersective

Table 2

(a) P-2, Q-3, R-1

(b) P-2, Q-1, R-3

(c) P-1, Q-2, R-3

(d) P-1, Q-3, R-2

57. In a given constraint ranking of **COMPLEX, DEP-IO** >> **MAX-IO** for the input /spun/, which of the following candidates is/are optimal?

(a) $[su.pun]$ (c) $[sun]$

(b) $[pun]$ (d) is.pun

58. Consider the pattern of stress assignment shown below. Which of the given statements is/are true?

```
     *

   *        *
   *        *

(ma.pi)   (le.se)   < gu >
```

(a) Stress assignment is from left to right

(b) There are/is extrametrical syllable(s)

(c) Feet are binary

(d) Stress system is iambic

59. In word processing studies, visual word recognition is affected by:

    (a) Proficiency, word length, neighborhood effect

    (b) Frequency, age of acquisition (*AoA*), familiarity

    (c) McGurk effect, place and manner of articulation (*PoAandMoA*)

    (d) Language family, areal features, phoneme inventory size

60. Identify the language(s) that belong(s) to the Balkan Sprachbund.

    (a) Romanian   (b) Bulgarian   (c) Norwegian   (d) Swedish

61. Consider the following tree structure, where A and C are co-referential. Similarly, E and H are co-referential. Identify the incorrect statement(s).
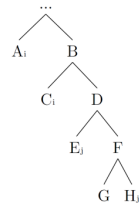

Figure 6

    (a) A binds C   (b) C binds E   (c) E binds D   (d) A binds H

62. Which of the following statements is/are true for the pair - bird : cuckoo

(a) Cuckoo is the hyponym of bird

(b) Bird is the hypernym of cuckoo

(c) Cuckoo is the hypernym of bird

(d) Bird is the hyponym of cuckoo

63. In the sentences 1 through 4, in which one(s) a) entails b)?

(a) i. Rama plays a string instru-
        ment.
    ii. Rama is a violinist.

(b) i. Hutolu sings.
    ii. Hutolu is melodious.

(c) i. Fido is a Dalmatian.
    ii. Fido is a dog.

(d) i. Students don't study.
    ii. Linguistics students do not
        study.

(a) 1 a) entails 1 b)

(b) 2 a) entails 2 b)

(c) 3 a) entails 3 b)

(d) 4 a) entails 4 b)

64. The following figure depicts a spectrum of a vowel (dashed line), where F0 = 150 Hz and F0 = H1. The harmonics are indicated from H1 to H11. From the figure, the frequency (in Hz) of the second formant (F2) of this vowel is_____.
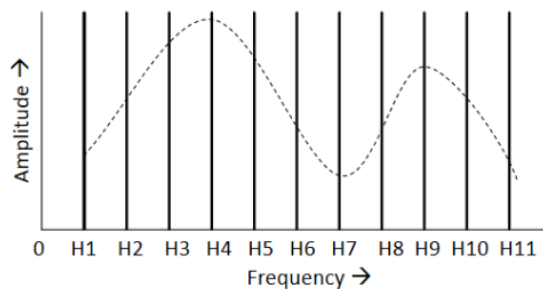

Figure 7

65. The number of core arguments associated with the ditransitive verb 'give' is _____. (*GATE XH* 2023)