Graduate Aptitude Test in Engineering 2021 Organising Institute - IIT Bombay

Linguistics (XH-C3)

## General Aptitude (GA)

Q. 1 - Q. 5 Multiple Choice Question (MCQ), carry ONE mark each (for each wrong answer: - 1/3).
\(\left.$$
\begin{array}{|l|l|}\hline \text { Q. } 1 & \begin{array}{l}\text { Consider the following sentences: } \\
\text { (i) }\end{array}
$$ <br>
(ii) \& After his surgery, Raja hardly could walk. <br>
After his surgery, Raja could barely walk. <br>
(iii) \& After his surgery, Raja barely could walk. <br>
(iv) \& After his surgery, Raja could hardly walk. <br>

Which of the above sentences are grammatically CORRECT?\end{array}\right]\)| (A) | (i) and (ii) |
| :--- | :--- |
| (B) | (i) and (iii) |
| (C) | (iii) and (iv) |
| (D) | (ii) and (iv) |


| Q. 2 | Ms. X came out of a building through its front door to find her shadow due <br> to the morning sun falling to her right side with the building to her back. <br> From this, it can be inferred that building is facing |
| ---: | :--- |
| (A) | North |
| (B) | East |
| (C) | West |
| (D) | South |

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Linguistics (XH-C3)

| Q. 3 | In the above figure, $\mathbf{O}$ is the center of the circle and, $\mathbf{M}$ and $\mathbf{N}$ lie on the circle. <br> The area of the right triangle MON is $\mathbf{5 0} \mathbf{~ c m}^{2}$. <br> What is the area of the circle in $\mathrm{cm}^{2}$ ? |
| :---: | :---: |
| (A) | $2 \pi$ |
| (B) | $50 \pi$ |
| (C) | $75 \pi$ |
| (D) | $100 \pi$ |


| Q. 4 | $\text { If }\left\{\begin{array}{l} " \oplus{ }^{\prime \prime} \text { means" }-", \\ " \otimes \text { " means" } \div ", \\ " \Delta " \text { means" " } ", \\ " \nabla{ }^{\prime} \text { means " } \times ", \end{array}\right.$ <br> then, the value of the expression $\Delta 2 \oplus 3 \Delta((4 \otimes 2) \nabla 4)=$ |
| :---: | :---: |
| (A) | -1 |
| (B) | $-0.5$ |
| (C) | 6 |
| (D) | 7 |

## Graduate Aptitude Test in Engineering 2021

 Organising Institute - IIT BombayLinguistics (XH-C3)

| Q.5 | "The increased consumption of leafy vegetables in the recent months is a <br> clear indication that the people in the state have begun to lead a healthy <br> lifestyle" <br> Which of the following can be logically inferred from the information <br> presented in the above statement? |
| ---: | :--- |
| (A) | The people in the state did not consume leafy vegetables earlier. |
| (B) | Consumption of leafy vegetables may not be the only indicator of healthy <br> lifestyle. |
| (C) | Leading a healthy lifestyle is related to a diet with leafy vegetables. |
| (D) | The people in the state have increased awareness of health hazards causing by <br> consumption of junk foods. |

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Q. 6 - Q. 10 Multiple Choice Question (MCQ), carry TWO marks each (for each wrong answer: - 2/3).

| Q.6 | Oxpeckers and rhinos manifest a symbiotic relationship in the wild. The <br> oxpeckers warn the rhinos about approaching poachers, thus possibly <br> saving the lives of the rhinos. Oxpeckers also feed on the parasitic ticks <br> found on rhinos. <br> In the symbiotic relationship described above, the primary benefits for <br> oxpeckers and rhinos respectively are, |
| ---: | :--- |
| (A) | Oxpeckers get a food source, rhinos have no benefit. |
| (B) | Oxpeckers save their habitat from poachers while the rhinos have no benefit. |
| (C) | Oxpeckers get a food source, rhinos may be saved from the poachers. |
| (D) | Oxpeckers save the lives of poachers, rhinos save their own lives. |

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Linguistics (XH-C3)


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Linguistics (XH-C3)

| Q. 8 | The number of hens, ducks and goats in farm $P$ are 65,91 and 169, <br> respectively. The total number of hens, ducks and goats in a nearby farm $\mathbf{Q}$ <br> is 416. The ratio of hens:ducks:goats in farm $Q$ is 5:14:13. All the hens, ducks <br> and goats are sent from farm Q to farm $P$. <br> The new ratio of hens:ducks:goats in farm $P$ is___ |
| :--- | :--- |
| (A) | $5: 7: 13$ |
| (B) | $5: 14: 13$ |
| (C) | $10: 21: 26$ |
| (D) | $21: 10: 26$ |


| Q. 9 |  <br> The distribution of employees at the rank of executives, across different companies $\mathbf{C 1}, \mathrm{C} 2, \ldots, \mathrm{C} 6$ is presented in the chart given above. The ratio of executives with a management degree to those without a management degree in each of these companies is provided in the table above. The total number of executives across all companies is 10,000 . <br> The total number of management degree holders among the executives in companies C2 and C5 together is $\qquad$ . |
| :---: | :---: |
| (A) | 225 |
|  | 600 |
| (C) | 1900 |
| (D) | 2500 |

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Linguistics (XH-C3)

| Q. 10 | Five persons $P, Q, R, S$ and $T$ are sitting in a row not necessarily in the <br> same order. Q and $R$ are separated by one person, and $S$ should not be <br> seated adjacent to Q. <br> The number of distinct seating arrangements possible is: |
| :--- | :--- |
| (A) | 4 |
| (B) | 8 |
| (C) | 10 |
| (D) | 16 |

## Reasoning and Comprehension (XH-B1)

Q. 1 - Q. 5 Multiple Choice Question (MCQ), carry ONE mark each (for each wrong answer: $-1 / 3$ ).

| Q.1 | According to a recent article in a medical journal, consuming curcumin <br> (from turmeric) significantly lowers the risk of COVID-19. The researchers <br> draw this conclusion from a study that found that people who consumed <br> one or more teaspoons of curcumin extract everyday were half as likely to <br> be diagnosed with the disease as people who did not consume curcumin. <br> Which of the following, if true, most weakens the argument in the article? |
| ---: | :--- |
| (A) | In another study, people who were given a zinc supplement everyday were more <br> than four times less likely to be diagnosed with COVID-19 as those who did <br> not. |
| (B) | All the participants in this study were from the same state where no other spices <br> or herbs are consumed. |
| (C) | The participants who consumed curcumin were also more likely to exercise than <br> those who did not. |
| (D) | In another study, COVID-19 patients who were given curcumin were no more <br> likely to recover than others. |


| Q. 2 | Froot Inc. carried out an internet advertisement campaign for its new <br> beverage CocoLoco. After the campaign, the director of the advertising <br> company conducted a survey and found that the CocoLoco sales were <br> higher than that of TenderJoos a competing product from Joos Inc. The <br> agency concluded that the internet advertising campaign is more effective <br> than advertising through other media. <br> Which of the following statements could strengthen the conclusion above <br> by the agency? |
| :--- | :--- |
| (A) | A ₹2 discount was offered on CocoLoco during the campaign period. |
| (B) | CocoLoco sales were higher than those of TenderJoos before the internet <br> campaign. |
| (C) | A newspaper advertisement campaign the previous year did not increase <br> CocoLoco sales. |
| (D) | During the campaign for CocoLoco, Joos Inc. did not advertise TenderJoos at <br> all. |

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| Q.3 | An e-commerce site offered a deal last month conditional on the customer <br> spending a minimum of ₹500. Any customer who buys 2 kg of fresh fruit <br> will receive a hand mixer and any customer who buys 2 kg of fresh <br> vegetables will receive a vegetable chopper. <br> Which of the following is NOT a possible outcome of the above? |
| ---: | :--- |
| (A) | A customer purchased 3 kg of fresh fruit and did not receive a vegetable <br> chopper. |
| (B) | A customer purchased items for ₹ 500 which included 1 kg of vegetables and <br> received a hand mixer. |
| (C) | A customer purchased items for ₹ $₹ 500$ which included 2 kg of vegetables and 1 <br> kg of fruit and received a hand mixer. |
| (D) | A customer purchased items for ₹ $₹ 300$ which included 2 kg of fruit and received <br> neither a hand mixer nor a vegetable chopper. |


| Q.4 | Writers of detective fiction often include an incompetent detective as a foil <br> for the brilliant investigator-protagonist as they follow different paths in <br> trying to solve the crime. In the individual accounts, the incompetent <br> detective is frequently distracted by the culprit's careful plans, while the <br> competent investigator solves the case after a final confrontation. Analysts <br> of such fiction believe that the authors select this story-telling technique to <br> provide readers with more complexities in the form of misleading clues, <br> while figuring out the crime. <br> Which of the following statements most logically follows from the passage <br> above? |
| ---: | :--- |
| (A) | A detective story is considered well-written if the brilliant investigator is <br> accompanied by an incompetent detective. |
| (B) | Writers of detective fiction use the contrast of an incompetent detective to <br> mainly show how complex the investigation is. |
| (C) | Writers of detective fiction never write stories where the incompetent detective <br> solves the case. |
| (D) | Writers of detective fiction use two investigative accounts to make it difficult <br> for the reader to figure out the outcome. |

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| Q.5 | The first (P1) and the last (P6) parts of a single sentence are given to you. <br> The rest of the sentence is divided into four parts and labelled (L,M,N,O). <br> Reorder these parts so that the sentence can be read through correctly and <br> select one of the options given. <br> P1: Studies of several Sahitya Akademi award winners show that... <br> L: or encounter professional <br> M: <br> and invariably develop a strained relationship with other literary figures <br> N: they often publish very little <br> O: after winning the prize <br> P6: ...envy and rivalry. <br> The correct order is: |
| :--- | :--- |
| (A) | NOLM |
| (B) | MLON |
| (C) | ONML |
| (D) | MOLN |

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Q. 6 - Q. 10 Multiple Choice Question (MCQ), carry TWO mark each (for each wrong answer: - 2/3).

| Q. 6 | Gerrymandering refers to the targeted redrawing of election constituencies so as to benefit a particular party. This is especially important where the electoral system is "first past the post" in each constituency (i.e. one winner is selected in each constituency based on a majority of votes won) and where there is no other provision for proportional representation (as for example in the German system). For a simple illustration of gerrymandering, if a region consists of districts $1,2,3, \ldots, 9$ with districts $1,2,3,4,5,6$ favouring party $P$ and $7,8,9$ favouring party $Q$, then grouping of districts to constituencies as $\{1,2,3\},\{4,5,6\},\{7,8,9\}$ will give two seats to party $P$ and one seat to party $Q$, whereas the grouping $\{1,2,7\}$, $\{3,4,8\},\{5,6,9\}$ will give all three seats to party $P$, as they will secure a majority in each constituency. <br> Which of these statements can be deduced from the above? |
| :---: | :---: |
| (A) | Gerrymandering implies that constituency boundaries can sometimes be drawn to favour one party over the other. |
| (B) | Gerrymandering implies that proportional representation is impossible when districts are grouped to form constituencies. |
| (C) | To counteract gerrymandering political parties should concentrate on districts where they are favoured. |
| (D) | The grouping of districts to constituencies has very little impact on proportional representation. |

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| Q. 7 | X-ray examination of a recently discovered painting that some authorities <br> judge to be a self-portrait by Michelangelo revealed an under-image of a <br> woman's face. Either Michelangelo or some other artist must have <br> repainted over the first painting that had now been seen on the canvas. <br> Because the woman's face also appears on other paintings by Michelangelo, <br> this painting is determined to indeed be an authentic painting by <br> Michelangelo. <br> Which of the following assumptions must be made in reaching the <br> conclusion above? |
| ---: | :--- |
| (A) | When an already painted canvas of an artist is used, the second artist using that <br> canvas for a new painting is usually influenced by the artistic style of the first. |
| (B) | Several painted canvases that art historians attribute to Michelangelo contain <br> under-images that appear on at least one other of Michelangelo's paintings. |
| (C) | Subject or subjects that appear in authenticated paintings of Michelangelo are <br> rather unlikely to show up as under-images on painted canvases not attributed to <br> Michelangelo. |
| (D) | No painted canvas can be attributed to a particular artist with certainty without <br> an X-ray analysis. |


| Q. 8 | This season_t_t tourists visited Ladakh than last season; however, <br> to be the biggest tourist destination in India. The tourism |
| ---: | :--- |
| department explains that the number of tourists to India has <br> relative to previous years, _ have chosen to visit Ladakh. <br> Select the correct sequence of phrases to fill in the blanks to complete the <br> passage above. |  |
| (A) | more / for the first time in many seasons it does not appear / increased / and it <br> seems that most |
| (B) | fewer / as in the past, it appears / in fact decreased / but it seems that only a <br> small proportion |
| (C) | fewer / for the first time in many seasons it appears / in fact decreased / but it <br> seems that most |
| (D) | more / this season as well, it appears / in fact decreased / but it seems that a <br> large proportion |

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Linguistics (XH-C3)

| Q. 9 | Reorder the sentences in (1) - (5) such that they form a coherent <br> paragraph. <br> (1) In fact, dozens of languages today have only one native speaker still <br> living, and that person's death will mean the extinction of the language: It <br> will no longer be spoken, or known, by anyone on earth. <br> (2) Many languages are falling out of use and are being replaced by others <br> that are more widely used in the region or nation, such as English in <br> Australia or Portuguese in Brazil. <br> (3) Many other languages are no longer being learned by new generations <br> of children or by new adult speakers. <br> (4) An endangered language is one that is likely to become extinct in the <br> near future. <br> (5) Unless the trends are reversed, these endangered languages will become <br> extinct by the end of the century. <br> (Adapted from What is an Endangered Language by A. Woodbury.) |
| :--- | :--- |
| (A) | 23145 |
| (B) | 23541 |
| (C) | 41523 |
| (D) | 42315 |

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Linguistics (XH-C3)

| Q. 10 | The first (P1) and the last (P6) parts of a single sentence are given to you. <br> The rest of the sentence is divided into four parts and labelled L,M,N,O. <br> Reorder these parts so that the sentence can be read correctly and select <br> one of the sequences below. <br> P1: For a little while... <br> L: $\quad$ it was a common belief <br> M: <br> right after the treaty of Versailles |
| :--- | :--- |
|  | N:  <br> O: held bey analysts and politicians alike <br> P6: ... but by also encouraging Italy in her own aggressions.  |
| (A) | LMNO |
| (B) | MLON |
| (C) | LNMO |
| (D) | MOLN |

Q. 11 - Q. 15 Multiple Select Question (MSQ), carry TWO mark each (no negative marks).

| Q. 11 | After Florentino Ariza saw her for the first time, his mother knew before <br> he told her because he lost his voice and his appetite and spent the entire <br> night tossing and turning in his bed. But when he began to wait for the <br> answer to his first letter, his anguish was complicated by diaorrhea and <br> green vomit, he became disoriented and suffered from sudden fainting <br> spells, and his mother was terrified because his condition did not resemble <br> the turmoil of love so much as the devastation of cholera. Florentino <br> Ariza's godfather, an old homeopathic practitioner who had been Transito <br> Ariza's confidant ever since her days as a secret mistress, was also alarmed <br> at first by the patient's condition, because he had the weak pulse, the <br> hoarse breathing, and the pale perspiration of a dying man. But his <br> examination revealed that he had no fever, no pain anywhere, and that his <br> only concrete feeling was an urgent desire to die. All that was needed was <br> shrewd questioning, first of the patient and then of his mother, to conclude <br> once again that the symptoms of love were the same as those of cholera. He <br> prescribed infusions of linden blossoms to calm the nerves and suggested a <br> change of air so he could find consolation in distance, but Florentino Ariza <br> longed for just the opposite: to enjoy his martyrdom. <br> (Adapted from Love in a Time of Cholera by Gabriel García Márquez.) |
| :--- | :--- |
|  | The author of the passage is implying that: |

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| Q. 12 | Now, it is clear that the decline of a language must ultimately have political <br> and economic causes: it is not due simply to the bad influence of this or that <br> individual writer. But an effect can become a cause, reinforcing the original <br> cause and producing the same effect in an intensified form, and so on <br> indefinitely. A man may take to drink because he feels himself to be a <br> failure, and then fail all the more completely because he drinks. It is rather <br> the same thing that is happening to the English language. It becomes ugly <br> and inaccurate because our thoughts are foolish, but the slovenliness of our <br> language makes it easier for us to have foolish thoughts. <br> (Adapted from Politics and the English Language by George Orwell.) <br> The illustration of the man who takes to drink is used to underscore which <br> of the following ideas in the passage above? |
| ---: | :--- |
| (A) | Political and economic causes control deterioration of language. |
| (B) | Foolish thoughts are enabled by inaccurate language. |
| (C) | Effect of an action becomes the cause in a cyclic pattern. |
| (D) | Drinking enables people to have foolish thoughts and slovenly language. |

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| Q. 13 | It is a pity that Caste even today has its defenders. The defences are many. <br> It is defended on the grounds that the Caste System is but another name <br> for division of labour, and if division of labour is a necessary feature of <br> every civilised society, then it is argued that there is nothing wrong in the <br> Caste System. Now the first thing to be urged against this view is that Caste <br> System is not merely division of labour. It is also a division of labourers. <br> Civilised society undoubtedly needs division of labour but nowhere is <br> division of labour accompanied by this unnatural division of labourers into <br> watertight compartments, grading them one above the other. This division <br> of labour is not spontaneous or based on natural aptitudes. Social and <br> individual efficiency requires us to develop the individual capacity and <br> competency to choose and to make his own career. This principle is <br> violated in so far as it involves an attempt to appoint tasks to individuals in <br> advance, not on the basis of trained original capacities, but on that of birth. <br> Industry undergoes rapid and abrupt changes and an individual must be <br> free to change his occupation and adjust himself to changing <br> circumstances, to gain his livelihood. (Adapted from Annihilation of Caste <br> by Dr. B.R. Ambedkar.) <br> Which of the following observations substantiate the arguments found in <br> the passage above? |
| :---: | :--- |
| (A) | Newer generations are unable to change and move away from low-paying <br> family professions, even with changed economic circumstances. |
| (B) | Sedentary desk jobs are considered to have more value and are in greater <br> demand than those involving manual labour. |
| (C) | The government's jobs guarantee programme makes low-level management <br> jobs available across all industries to all graduates in the nation. |
| (D) | A bus driver becomes an app creator and, in the course of one month, reaches <br> one million downloads on Playstore with a four-star rating. |
|  |  |

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| Q. 14 | Imagine that you're in a game show and your host shows you three doors. <br> Behind one of them is a shiny car and behind the others are goats. You pick <br> one of the doors and get what lies within. After making your choice, your <br> host chooses to open one of the other two doors, which inevitably reveals a <br> goat. He then asks you if you want to stick with your original pick, or <br> switch to the other remaining door. What do you do? Most people think <br> that it doesn't make a difference and they tend to stick with their first pick. <br> With two doors left, you should have a 50\% chance of selecting the one <br> with the car. If you agree, then you have just fallen afoul of one of the most <br> infamous mathematical problems - the Monty Hall Problem. In reality, <br> you should switch every time which doubles your ods of getting the car. <br> Over the years, the problem has ensnared countless people, but not, it <br> seems, pigeons. The humble pigeon can learn with practice the best tactic <br> for the Monty Hall Problem, switching from their initial choice almost <br> every time. Amazingly, humans do not! <br> (Adapted from an article by Ed Yong in Discover Magazine.) <br> Which of the following conclusions follow from the passage above? |
| :---: | :--- |
| (A) | Humans calculate the probability of independent, random events such as the <br> opening of a door by dividing the specific outcomes by the total number of <br> possible outcomes. |
| (B) | Humans find it very difficult to learn to account for the host's hand in making <br> the event non-random and, thereby, changing the outcome of the event. |
| (C) | Calculating probabilities is difficult for humans but easy for pigeons; which is <br> why the pigeons succeed where the humans fail. |
| (D) | Humans are governed by reason, but pigeons are irrational and only interested <br> in the outcome and will do whatever it takes to get food. |

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Q. 15 The truth is that, despite the recent success of car-makers $\mathbf{P}$ and $Q$, India's automobile industry is in a state not that different from the bad old days of the license-permit quota raj when two carmakers dominated a captive domestic market with substandard vehicles and with very little, if any, research and development, and low to negligible productivity growth. High tariff barriers have certainly induced foreign automobile makers to enter the Indian market by setting up local operations, but this so-called "tariff jumping" foreign investment has produced an industry that is inefficient, operating generally at a low scale, and whose products are not globally competitive either in terms of cost or of innovation. It is noteworthy that the automobile parts industry, which has faced low tariffs (as low as $\mathbf{1 2 . 5 \%}$ ) and has been largely deregulated, has been characterised by higher productivity and much better export performance than the completelybuilt units' sector in the years since liberalisation.
(Adapted from an Op-Ed in The Mint.)
Which of the following statements can be inferred from the above?
(A) Low tariff barriers increase productivity.
(B) Tariff jumping leads to increases in productivity.
(C) Deregulation has worked for the automotive parts industry and therefore should be applied to completely-built units.
(D) P and Q do not invest enough in research and development.

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## Linguistics (XH-C3)

Q. 1 - Q. 14 Multiple Choice Question (MCQ), carry ONE mark each (for each wrong answer: - 1/3).

| Q.1 | Which of the following is NOT demonstrated by studies with Great Apes <br> like Koko and Washoe and Sarah? |
| ---: | :--- |
| (A) | The capacity to produce rule-governed, novel messages. |
| (B) | The capacity for symbolic communication. |
| (C) | The manual dexterity for signing. |
| (D) | The ability to teach other members of the species. |


| Q.2 | The meaning relax or calm down for the word 'chill' is an example of what <br> kind of semantic change? |
| ---: | :--- |
| (A) | Metaphor |
| (B) | Metonymy |
| (C) | Synecdoche |
| (D) | Pejoration |

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Linguistics (XH-C3)

| Q. 3 | Match the following communication systems (P-T) to their type (i-vi) and select the correct sequence: |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | $\mathbf{P}$ | Bird song | (i) | Indexical and discrete |
|  | Q |  | (ii) | Symbolic and continuous |
|  | R | Footprints on the beach | (iii) | Symbolic and discrete |
|  | S | Direction indication in bee dance | (iv) | Indexical and continuous |
|  | T | Bird calls | (v) | Iconic and discrete |
|  |  |  | (vi) | Iconic and continuous |
| (A) |  | ), Q-(v), R-(i), S-(ii), T-(iv) |  |  |
| (B) |  | , Q-(vi), R-(ii), S-(iv), T-(iii) |  |  |
| (C) |  | , Q-(v), R-(iii), S-(ii), T-(vi) |  |  |
| (D) |  | , Q-(vi), R-(v), S-(iii), T-(i) |  |  |


| Q.4 | Statistical learning in language development in infants refers to |
| ---: | :--- |
| (A) | calculating regularities in speech to isolate words |
| (B) | early mathematical knowledge that infants can demonstrate |
| (C) | infant data that researchers use to understand language growth |
| (D) | learning to differentiate phonemes as they are used in spoken words |

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Linguistics (XH-C3)

| Q. 5 | If ‘Aam Aadmi' is translated as 'Mango Man', which type of ambiguity <br> does the translation demonstrate? |
| ---: | :--- |
| (A) | Lexical |
| (B) | Syntactic |
| (C) | Morphological |
| (D) | Morphosyntactic |


| Q.6 | While most of the historically known writing systems in India tend to write <br> from left to right, identify the one which writes from right to left. |
| ---: | :--- |
| (A) | Kharoṣthī |
| (B) | Brāhmī |
| (C) | Sāradā |
| (D) | Grantha |


| Q. 7 | Identify the pair of words with a circumfix from the list below. |
| ---: | :--- |
| (A) | enlighten, embolden |
| (B) | enquiring, inquiring |
| (C) | transformation, transportation |
| (D) | reduced, repeated |

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| Q.8 | Which of the following sets illustrates sound symbolism in English? |
| ---: | :--- |
| (A) | mash, splash, bash, crash |
| (B) | flash, shine, sear, glimmer |
| (C) | duck, suck, luck, tuck |
| (D) | forte, piano, allegro, crescendo |


| Q.9 | Voice Onset Time (VOT) is an acoustic cue used by our auditory- <br> perceptual systems. Which of the following sounds can be identified using <br> VOT? <br> (i) |
| :--- | :--- |
|  | Voiced Stops  <br> (ii) Unvoiced Stops <br> (iii) Prenasalised Stops <br> (iv) Aspirated Stops <br> (v) Ejective Stops |
| (A) | (i), (ii), (iv) but NOT (iii) and (v) |
| (B) | (i), (ii), (iii), (iv) but NOT (v) |
| (C) | (iv), (v) but NOT (i), (ii) and (iii) |
| (D) | (i), (iii), (v) but NOT (ii) and (iv) |


| Q.10 | In syntactic terms, which of the following is the odd one out? |
| ---: | :--- |
| (A) | Belle struck the Beast as incompetent. |
| (B) | Belle regarded the Beast as incompetent. |
| (C) | Belle identified the Beast as incompetent. |
| (D) | Belle viewed the Beast as incompetent. |

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Linguistics (XH-C3)

| Q.11 | Which of the following speech errors is NOT expected in natural <br> languages? The items that are swapped are indicated in capitals. The <br> intended phrase is tight-ly pack-ed. |
| ---: | :--- |
| (A) | tighKly paTed |
| (B) | Pightly Tacked |
| (C) | PACKly TIGHTed |
| (D) | tightED packLY |


| Q.12 | Language isolates are languages that |
| ---: | :--- |
| (A) | are not known to be related to any other languages |
| (B) | are spoken in isolated parts of the world |
| (C) | have no dialectal or sociolectal varieties |
| (D) | are separated geographically from other members of their family |


| Q.13 | On the new ₹2000 note, how many languages can be found in the language <br> panel displaying the denomination of the note? |
| ---: | :--- |
| (A) | Fifteen |
| (B) | Sixteen |
| (C) | Seventeen |
| (D) | Eighteen |

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Linguistics (XH-C3)

| Q.14 | How many unique morphemes can be isolated in this sentence? |
| ---: | :--- |
| (A) | Twelve |
| (B) | Ten |
| (C) | Sixteen |
| $(D)$ | Eleven |

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Q. 15 - Q. 20 Multiple Select Question (MSQ), carry ONE mark each (no negative marks).

| Q.15 | "I look forward to visiting teachers". What does this sentence <br> demonstrate? |
| ---: | :--- |
| (A) | Syntactic ambiguity |
| (B) | Semantic role ambiguity |
| (C) | Lexical ambiguity |
| (D) | No ambiguity |


| Q.16 | Which of the following pairs of words do NOT stand in troponymous <br> relationship? |
| ---: | :--- |
| (A) | lisp-talk |
| (B) | limp-walk |
| (C) | dream-sleep |
| (D) | wait-fidget |


| Q.17 | Which of the following areal/typological feature(s) may be seen in a vast <br> majority of the languages of South Asia? |
| ---: | :--- |
| (A) | Compound Verbs |
| (B) | Retroflexed Sounds |
| (C) | Non-nominative Subject Case |
| (D) | Agglutinative Morphology |


| Q. 18 | Three different ways of writing a single word in the Mayan script are given below. The glyphs (i-iii) are of a single word [ba'lam] meaning 'jaguar'. What can we conclude about the Mayan writing system from the examples provided? <br> (i) <br> (ii) <br> (iii) |
| :---: | :---: |
| (A) | The glyphs can be logograms, mean whole words. |
| (B) | The glyphs can be syllabic. |
| (C) | The glyphs use the rebus principle, part sound part meaning. |
| (D) | The glyphs can be alphabetic, spelling out sounds. |


| Q.19 | Identify symptom(s) of phonological dyslexia. |
| ---: | :--- |
| (A) | The inability to map letters to sounds. |
| (B) | The inability to pronounce made-up or nonsense words. |
| (C) | The inability to tell homographs apart. |
| (D) | The inability to recognise semantic mismatches. |


| Q.20 | Creolisation and creoles are characterised by which of the following? |
| ---: | :--- |
| (A) | Creolisation is the process of elaborating Pidgin languages. |
| (B) | Creolisation happens when a Pidgin is learned by young children as a first <br> language. |
| (C) | Creoles have elaborated grammars but somewhat limited vocabulary. |
| (D) | Creole vocabulary is expansive but the grammar is limited and variable. |

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Q. 21 - Q. 25 Multiple Choice Question (MCQ), carry TWO mark each (for each wrong answer: $-2 / 3$ ).

| Q. 21 | In the following sentence, you are required to identify the type of aphasia <br> and select the correct sequence from the options given below. <br> Use of jargon and words that have no meaning are typical of <br> aphasia, while the inability to differentiate between actives and passives is <br> seen in <br> words and this is known as some patients use circumlocutions for simple <br> aphasia; in patients with <br> aphasia, production and comprehension may be reasonably preserved, but <br> the ability to repeat an utterance is disrupted. |
| ---: | :--- |
| (A) | Wernicke's, Broca's, Anomic, Conduction |
| (B) | Broca's, Wernicke's, Conduction, Dysphonia |
| (C) | Anomic, Conduction, Broca's, Wernicke's |
| (D) | Dysphonia, Anomic, Wernicke's, Broca's |


| Q. 22 | Match the dialogues in (P-S) to the Gricean Maxim (i-v) that has been flouted to create humour. |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | P. | - Excuse me, do you know what time it is? <br> - Yes. | (i) | Maxim of Relation |
|  | Q. | - How many surrealists does it take to screw in a light bulb? <br> - Fish. | (ii) | Maxim of Manner |
|  | R. | - Do you believe in clubs for young men? <br> - Only when kindness fails. | (iii) | Maxim of Quantity |
|  | S. | - Why did the General fly to Panama? <br> - Because the fighting is over. | (iv) | Maxim of Quality |
|  |  |  | (v) | Maxim of cooperation |
|  | (Adapted from Attardo, 1990) |  |  |  |
| (A) | P-(iii), Q-(i), R-(ii), S-(iv) |  |  |  |
| (B) | P-(i), Q-(v), R-(ii), S-(iii) |  |  |  |
| (C) | P-(i), Q-(iii), R-(iv), S-(v) |  |  |  |
| (D) | P-(iv), Q-(ii), R-(iii), S-(i) |  |  |  |


| Q.23 | Sign languages have long been used by the deaf communities to <br> communicate amongst themselves. Which of the following is correct? |
| ---: | :--- |
| (A) | Sign language shows duality of patterning with meaningless gestures combining <br> to create single signs. |
| (B) | Signs in sign languages are dominantly iconic and transparent with respect to the <br> meaning they encode. |
| (C) | Children who are hearing-impaired do not converge on a language without <br> instruction in signing and/or speaking. |
| (D) | Sign languages are pidgin like, rudimentary communication systems. |

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Linguistics (XH-C3)

| Q. 24 | In the sentence "The gunman sprayed the building with bullets", the <br> preposition phrase (PP) 'with bullets' is attached to |
| ---: | :--- |
| (A) | 'sprayed', because it meets the selectional restriction of 'sprayed' |
| (B) | 'sprayed', because it serves as the adjunct of the verb 'sprayed' |
| (C) | 'the gunman', because the gunman has the gun |
| (D) | 'the building', because of proximity |


| Q. 25 | Consider the sentence "Little children marched past the church sang". <br> Assume the starting rule of the context free grammar describing the <br> language to be S $\rightarrow$ NP VP, where S is the start symbol, NP is the noun <br> phrase and VP is the verb phrase. For the given sentence, how many words <br> does VP contain? |
| :--- | :--- |
| (A) | One |
| (B) | Two |
| (C) | Three |
| (D) | Four |

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Q. 26 - Q. 40 Multiple Select Question (MSQ), carry TWO mark each (no negative marks).

| Q. 26 | The above figure shows what is called a finite state machine. The machine reads one word at a time and transitions to a new state. The states are indicated by boxes and the transitions by arrows. There are three states $\mathrm{S}_{0}$, $S_{1}$ and $S_{2}$ and the last is the final state (indicated by two coincident boxes). The text beside each arrow means the following: DT = determiner (a, an, the), $\mathbf{A J}=$ adjective, $N N=$ noun. The machine starts at $S_{0}$ and on seeing a determiner (DT) enters the state $S_{1}$. Then if it sees an adjective (AJ), it remains in the same state. But at state $S_{1}$ if it sees a noun (NN), it enters the final state. The final state is also called the "accept" state. No other states or state transitions are defined or permitted. <br> Which of the following will cause the machine to enter $S_{2}$, the accept state? |
| :---: | :---: |
| (A) | The blue sky |
| (B) | A vast blue sky |
| (C) | The sky |
| (D) | A very blue sky |

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| Q. 27 | Which of the following has/have been observed in speech perception <br> experiments? |
| ---: | :--- |
| (A) | Speech perception experiments with infants show that they are sensitive at birth <br> to the rhythmic properties of their language, as well as the difference between <br> stress-timed and syllable-timed languages. |
| (B) | Infants and adults show categorical perception of consonant sounds, that is, the <br> ability to treat what is a continuous acoustic feature as discrete. |
| (C) | Infants are sensitive to sounds that are not part of the phonemic inventory of the <br> language(s) to which they are exposed, but older children and adults are not. |
| (D) | The Phoneme Restoration effect seen in speech perception experiments (where <br> people hear phonemes that have been replaced by noise or a cough) shows that <br> speech is perceived as linear. |


| Q. 28 | Language games are a way to manipulate spoken words as the following examples from three languages show. Identify the correct statement(s) below about language games. |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | LANGUAGE | USUAL <br> WORD FORM | GAME WORD FORM | GLOSS |
|  | Bakwiri | kóndì <br> mòḱ́ | ndíkò <br> kòm | rice one person |
|  | English | pıg lætın kantri | ıgpe ætınle antrike | Pig Latin country |
|  | Marathi | kāi chāl-lai mərāt ${ }^{\text {h }}$ | kāpmāi chāpmāl-lai məpmərāt ${ }^{\text {hi }}$ | What's up? <br> Marathi |
| (A) | The intent is to disguise or conceal conversation. |  |  |  |
| (B) | Words are manipulated systematically using defined rules. |  |  |  |
| (C) | The game manipulation targets varying units of the phonological form. |  |  |  |
| (D) | Only children use language games. |  |  |  |

## Graduate Aptitude Test in Engineering 2021

 Organising Institute - IIT Bombay| Q. 29 | What can be said about the intent and nature of prescriptive rules for <br> languages? |
| ---: | :--- |
| (A) | Provide criteria for written language. |
| (B) | Characterise the universal grammar of languages. |
| (C) | Characterise inter-dialectal differences. |
| (D) | Encode changes to spoken language. |


| Q. 30 | The use of singular they was voted 'the word of the decade' by linguists. <br> Which of the following motivates the singular use? |
| ---: | :--- |
| (A) | The use of they in the singular replaces the sex specific he and she pronouns. |
| (B) | Using gendered pronouns can lead to gendered interpretations of the messages. |
| (C) | Sometimes the gender information is not known and it is easier to use they than <br> he/she. |
| (D) | English is a sexist language. |

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| Q. 32 | Consider the following set of Phrase Structure Rules in a toy grammar: <br> [Note: $T$ is tense, $P$ is preposition, $V$ is verb and $N$ is noun; they project their respective phrasal units TP, PP, VP and NP] $\begin{array}{lll} \mathbf{T P} & \rightarrow & \mathbf{N P} \text { T VP } \\ \mathbf{V P} & \rightarrow & \text { (Adverb) } \mathbf{V}(\mathbf{T P})(\mathbf{P P}) \\ \mathbf{P P} & \rightarrow & \mathbf{P} \mathbf{N P} \\ \mathbf{N P} & \rightarrow & (\text { Determiner) }(\text { Adjective) } \mathbf{N} \end{array}$ <br> Which of the following sentences can be generated by these rules? |
| :---: | :---: |
| (A) | The golden bells are probably ringing in the church. |
| (B) | Bells ring to let believers know that mass will begin. |
| (C) | The golden bells in the church always ring for prayers. |
| (D) | The silent bells say that the pastor has not visited the bell tower. |

$\left.\begin{array}{|r|l|}\hline \text { Q. } 33 & \begin{array}{l}\text { Evaluate the following according to the three principles of the Binding } \\ \text { Theory and choose the correct statement(s). } \\ \text { (Note: the subscripted <i> indicates co-reference between the arguments } \\ \text { that bear them.) }\end{array} \\ \hline \text { (A) } & \begin{array}{l}\text { The sentence Everyone who meets Tagore } \\ i\end{array} \\ \text { principles of the Binding Theory. }\end{array}\right\}$

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\(\left.$$
\begin{array}{|r|l|}\hline \text { Q. } 34 & \begin{array}{l}\text { Given the facts (i-iv) about the World Cup, evaluate the statements using } \\
\text { truth conditions and the truth tables of connectors to find the 'false' } \\
\text { statement(s). } \\
\text { (i) }\end{array} \\
& \begin{array}{l}\text { Argentina has won the World Cup twice: 1978, 1986 } \\
\text { (ii) }\end{array}
$$ <br>
(iii) \& Germany has won it four times: 1954, 1974, 1990, 2014 <br>

(iv) \& Japan has never won it\end{array}\right]\)| (A) | If [Argentina won the World Cup in 1986] then [Germany won it in 1998]. |
| ---: | :--- |
| (B) | [Germany didn't win the World Cup in 1986] and [France won it in 1990]. |
| (C) | [Argentina didn't win the World Cup in 1986] or [Japan has never won the <br> World Cup]. |
| (D) | If [Argentina didn't win the World Cup in 1978] then [France won it in 1990]. |


| Q. 35 | For which of the following sentence(s) can the assigned presupposition (P) <br> hold? |
| ---: | :--- |
| (A) | Who discovered the Silverback Slug in 1960? <br> P: Someone discovered the Silverback Slug in 1960. |
| (B) | If she had drunk coffee this morning, she would have been more alert. <br> P: She had not drunk coffee. |
| (C) | Ruchi's parents returned to Alaska over the summer. <br> P: Ruchi's parents had been to Alaska sometime before the summer. |
| (D) | The police ordered the students to stop drinking. <br> P: The students were drunk. |

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Linguistics (XH-C3)

| Q. 36 | Consider carefully the following data from four languages. Which deduction(s) can plausibly be made using the methods of comparative reconstruction? |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | LANGUAGE $\mathbf{A}$ | LANGUAGE B | LANGUAGE <br> C | LANGUAGE <br> D | GLOSS |
|  | due | bi | dó | doi | two |
|  | naso | nosa | srón | nas | nose |
|  | fratello | anaia | bráthair | frate | brother |
|  | padre | aita | pathair | pata | father |
|  | sette | zazpi | seacht | sapte | seven |
|  | orecchio | elarri | cluas | ureche | ear |
|  | dieci | hamar | deich | zece | ten |
| (A) | Languages A and D are closely related. |  |  |  |  |
| (B) | Language A is distantly related to Language C . |  |  |  |  |
| (C) | Language D is distantly related to Language B . |  |  |  |  |
| (D) | Languages A,B,C and D are all unrelated languages. |  |  |  |  |

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Linguistics (XH-C3)

| Q. 37 | Analyse the following Shakespearean sentences, and observe the differences between Early Modern English and Modern English - that is, how you would say these sentences today. What can we say in precise, grammatical terms about the syntactic changes that have occurred? |  |
| :---: | :---: | :---: |
|  | Thou marvell'st at my words | Macbeth, Macbeth, III.ii |
|  | Macbeth doth come. | Third Witch, Macbeth, I.iii |
|  | Wilt thou use thy wit? | Claudio, Much Ado About Nothing, V.i |
|  | Do you fear it? | Cassius, Julius Caesar, I.ii |
|  | Knows he not thy voice? | First Lord, All's Well That Ends Well, IV.i |
|  | Didst thou not say he comes? | Baptista, Taming of the Shrew, III.ii |
|  | Can'st not rule her? | Leontes, Winter's Tale, II. iii |
|  | What sayst thou? | Olivia, Twelfth Night, III.iv |
|  | What dost thou say? | Othello, Othello, III.iii |
|  | Whom overcame he? | Boyet, Love's Labour's Lost, IV.i |
| (A) | The agreement forms of Early Modern English included a different form for $2^{\text {nd }}$ person, singular subjects. |  |
| (B) | In wh- and yes-no questions the main verb can raise to Head, CP [Complementizer Phrase]. |  |
| (C) | Pronominal forms are unchanged from Early Modern into Modern English. |  |
| (D) | Auxiliary verbs could raise to T [Tense] in Early Modern English but not main verbs. |  |

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\(\left.$$
\begin{array}{|l|l|}\hline \text { Q. } 38 & \begin{array}{l}\text { The following utterances were produced by a child aged } \mathbf{3} \text { years. } \\
\text { (i) } \\
\text { (ii) } \\
\text { Put him in the bathtub. } \\
\text { (iii) }\end{array}
$$ <br>
(ive eated gummy bears. <br>
(iv) \& I don't knou for giving us these books. <br>
(v) \& He bited my finger. (After correction: He bitted my finger.) <br>
(vi) \& I runed in the water. <br>
(vii) \& I rided on an elephant. <br>

Which of the following statement(s) can be deduced from the data?\end{array}\right]\)| (A) | The child differentiates between lexical and non-lexical categories of English. |
| ---: | :--- |
| (B) | The child has acquired the Spec-Head and Complement-Head orders of English. |
| (C) | The child has acquired case marking in English. |
| (D) | The child has not yet acquired the rule of past tense formation in English. |


| Q. 39 | The human speech production system is characterised by which of the <br> following? |
| ---: | :--- |
| (A) | A laryngeal source |
| (B) | A vocal tract that acts as a filter |
| (C) | A vocal tract that acts as a resonator |
| (D) | A laryngeal resonator |


| Q. 40 | Which of the following kinds of evidence are offered in support of an <br> innateness view of the human language ability? |
| ---: | :--- |
| (A) | All humans, no matter how primitive their societies, have the capacity for <br> language. |
| (B) | Children learn the language(s) in their environment without explicit instruction. |
| (C) | Speakers of all languages are capable of producing and understanding an infinite <br> number of sentences. |
| (D) | All languages and their grammars change through time. |

## END OF THE QUESTION PAPER

