

Model Test Paper 26  
General Study Paper II

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TEST BOOKLET  
GENERAL STUDIES  
Paper-II

B

Time Allowed : Two Hours

Maximum Marks : 200

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INSTRUCTIONS

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION YOU SHOULD CHECK THAT THE TEST BOOKLET *DOES NOT* HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS, ETC, IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
2. **Please note that it is the candidate's responsibility to encode and fill in the Roll Number and Test Booklet Series A, B, C or D carefully and without any omission or discrepancy at the appropriate place in the OMR Answer Sheet. Any omission/discrepancy will render the Answer Sheet liable for rejection.**
3. You have to enter your Roll Number on the Test Booklet in the Box provided alongside . *DO NOT* write *anything else* on the Test Booklet.
4. This Test Booklet contains **80** items (questions). Each item comprises four responses (answers). You will select the response which you want to mark on the Answer Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose *ONLY ONE* response for each item.
5. You have to mark all your responses *ONLY* on the separate Answer Sheet provided.
6. **All** items carry equal marks.
7. Before you proceed to mark in the Answer Sheet the response to various items in the Test Booklet, you have to fill in some particulars in the Answer Sheet as per instructions sent to you with your Admission Certificate.
8. After you have completed filling in all your responses on the Answer Sheet and the examination has concluded, you should hand over to the invigilator only the *Answer Sheet*. You are permitted to take away with you the Test Booklet.
9. Sheets for rough work are appended in the Test Booklet at the end.
10. **Penalty for wrong Answers :**  
THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY A CANDIDATE IN THE OBJECTIVE TYPE QUESTION PAPERS.  
(i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, **one-third** of the marks assigned to that question will be deducted as penalty.  
(ii) If a candidate gives more than one answer, it will be treated as a **wrong answer** even if one of the given answers happens to be correct and there will be same penalty as above to that question.  
(iii) If a question is left blank, i.e., no answer is given by the candidate, there will be **no penalty** for that question.

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Read the following passage and answer the questions based on it.

In our approach to life, be it pragmatic or otherwise, a basic fact that confronts us squarely and unmistakably is the desire for peace, security and happiness. Different forms of life at different levels of existence make up the teeming denizens of this earth of ours. And, no matter whether they belong to the higher groups such as human beings or to the lower groups such as animals, all beings primarily seek peace, comfort and security. Life is as dear to a mute creature as it is to a man. Even the lowliest insect strives for protection against dangers that threaten its life. Just as each one of us wants to live and not to die, so do all other creatures.

1. The author's main point is that

- (a) different forms of life are found on earth
- (b) different levels of existence are possible in nature
- (c) peace and security are the chief goals of all living beings
- (d) even the weakest creature struggles to preserve its life

2. Which one of the following assumptions or steps is essential in developing the author's position?

- (a) All forms of life have a single overriding goal
- (b) Only 2 is correct
- (c) Both 1 and 2 are correct
- (d) Neither 1 nor 2 is correct

Read the following passage and answer the questions based on it.

Ah ! whatever could be said was said. All held him guilty. Even his own mother who claimed to understand him the best. All had betrayed him in his hour of need. Yet, there he was, still with a sparkling hope and knew that the truth must prevail. In the cold, dark and damp cell he never for a moment lost faith in God and goodness and was waiting anxiously for an angel to come, plead non guilty for him and free him of his miseries.

3. Three of the following statements indicate that he had a sparkling hope. Which statement does not?

- (a) He had never lost faith in God

(b) He was sure there was goodness

(c) he could have evidence in his favour

(d) He knew that truth must prevail

4. Whatever other's said about him, he

- (a) Betrayed no one
- (b) Thought over the problem
- (c) Never lost faith in goodness
- (d) Raised his voice against injustice

5. In the dark dungeon he always waited for

- (a) His mother
- (b) The jailer
- (c) The verdict freeing him of his miseries
- (d) The angel to come and plead for him

6. The truth must prevail means

- (a) He was true
- (b) Angel will reveal truth
- (c) Truth always wins in the end
- (d) We must plead for the truth

Read the following passage and answer the questions based on it.

Once while travelling by the local bus, I got a seat beside a very strange man. He seemed interested in every passenger aboard. He would stare at a person, scribble some odd mathematical notations on his long notebook and then move on to the next. Being quite interested in what he was doing I asked him what all those notations meant and then came the startling reply. He saw a man's face not as a single unit but as thousands of squares put together. He was in fact a statistical expert and a budding artist learning the art of graphics.

7. The man was scribbling down

- (a) The figures of co-passengers
- (b) The details of thousands of squares put together

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<p>(c) Some mathematical formulae and calculations (d) Some mathematical signs</p> <p>8. The man caught author's attention because</p> <p>(a) He was sitting next to him (b) He was staring at every person in the bus (c) He would stare at every person and then scribble down some mathematical notation (d) He was a budding artist learning the art of graphics</p> <p>9. The author found that man's reply quite startling because</p> <p>(a) A statistical expert cannot be a budding artist (b) A budding artist cannot be as statistical expert (c) Graphics is still a rare art form and he was learning it while travelling in a bus (d) The fact that "a man's face can be analysed as thousands of squares" was a strange concept</p> <p>10. From the passage we gather that</p> <p>(a) The author is very inquisitive (b) The author tries to poke his nose in other people's business (c) The author is interested in mathematical notations (d) The author wants to talk to fellow passengers in the bus</p> <p>Read the following passage and answer the questions based on it. With the inevitable growth of specialization I see the universities facing two great dangers. First, it is very easy to get so involved in the technical details of education that the object of education is lost. And secondly, in an effort to condition a university to the needs of its students and to the needs of the State it may lose its power to make or mould those students into responsible men, capable of thinking for themselves and capable of expressing the results of their thoughts to others.</p>	<p>11. The author calls growth of specialisation "inevitable". Which one of the following statements is likely to be the most correct reason for this inevitability?</p> <p>(a) Universities give grant only to do specialised work in different disciplines (b) The professors and researchers in universities are competent only for specialised work (c) Specialization helps economic growth of the nation (d) In the age of science and technology specialization becomes necessary</p> <p>12. Which one of the following statements most correctly suggests the central theme of the passage?</p> <p>(a) The aim of education is specialization (b) The aim of education is to mould the youth to work for the State (c) The aim of education is to make the youth capable of independent thought and expression (d) The aim of education is to enable the youth to earn a comfortable living</p> <p>13. Which one of the following statements most correctly suggests the warning implied in the passage?</p> <p>(a) University education should not be concerned with technical details (b) Universities should not subordinate themselves to the interests of the State (c) Universities should be concerned only with the needs of students (d) Universities should not go in for any specialization</p> <p>Read the following passage and answer the questions based on it. One December night, a family had gathered around and piled it high with wood gathered from mountain streams and ruins of great trees that had come falling down the mountain sides. The fire roared and brightened the room with its light. The faces of the father and mother had a quiet gladness; and the aged grandmother who sat sewing in the warm place was the picture of happiness grown old.</p>
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<p>14. The fire wood had been</p> <p>(a) brought (b) stolen (c) collected (d) found</p> <p>15. The parents looked</p> <p>(a) serene (b) cheerful (c) gloomy (d) dull</p> <p>16. The oldest daughter looked</p> <p>(a) stupid (b) glad (c) intelligent (d) mournful</p> <p>Read the following passage and answer the questions based on it. The unpleasant feeling passed and she glanced up at him. He was walking unmarked in moonlight, innocent of her reaction to him. She felt then - this thought had come to her before - that there might be more to him than she had imagined. She felt ashamed she never thanked him for the help he had given her father.</p> <p>17. She glanced at him when</p> <p>(a) He walked along and unnoticed in moonlight (b) She was sure that she was not being noticed (c) Her reactions did not have any effect on him (d) The unpleasant feeling passed</p> <p>18. Her unpleasant feeling passed when</p> <p>(a) He did not take any notice of her (b) The moonlight was beautiful (c) She realized her sense of shame</p>	<p>(d) She looked carefully at him</p> <p>19. She was ashamed because</p> <p>(a) She was spying on him (b) There was more to him than she had imagined (c) A recurring thought came back to her (d) She had never thanked him for this help to her father</p> <p>Read the following passage and answer the questions based on it. As I slung my pack onto my shoulders a big mosquito thudded against my cheek. There had been a few through the day, but it was early in the season - the ice had gone out just two weeks before- and I had scarcely noticed them. But now as I would down the ridge, the last breeze faded, and they were on me. Rising in clouds from the soggy tundra, they pelted against my face. I reached in my pocket for the repellent, and came up empty.</p> <p>20. The traveller could not feel the breeze because</p> <p>(a) The mosquito had bitten him (b) he was at the foot of the ridge (c) There was no ice on the mountain (d) There was no breeze on the tundra mountain</p> <p>21. The traveller carried with him</p> <p>(a) Moaquito repellent (b) A pack of food (c) A sling (d) A back-pack</p> <p>22. When he was in the arctic, the time of the year was</p> <p>(a) Middle of winter (b) Early autumn (c) Early spring (d) Middle of summer</p>
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Read the following passage and answer the questions based on it.  
Popular illusions about birds extend further than the use of the word 'egg-shape' that would suggest that all eggs are alike. For instance, there is the popular idea that owls hoot. Actually, only very few owls hoot and these include the common brown or tawny wood owl. The white barn owl screeches; the little owl has a wailing cry; the long-eared owl barks; and the short-eared owl snorts ! Another mistaken idea is that all ducks 'quack', because the common farmyard duck is a domesticated form of the common wild duck or mallard that quacks. Actually most wild ducks call with whistles.

23. The main purpose of the passage is

- (a) to describe the life of popular birds
- (b) to show our incorrect ideas of bird life
- (c) to show our perfect knowledge about birds
- (d) to describe the calls of owls and ducks

24. The impression created by repeating the terms 'popular' and 'common' are

- (a) human beings are closely attached to birds
- (b) our ideas about birds are derived from the most common types
- (c) owls and ducks are our favourite birds
- (d) domesticated birds are our source of information about the bird worlds

25. The common duck is not a separate species but a tamed version of wild variety because it

- (a) whistles like most wild ducks
- (b) grunts like the tufted duck
- (c) has the same call as other ducks
- (d) quacks like the mallard

Read the following passage and answer the questions based on it.  
"What is sixteen and three multiplied?" asked the teacher. The boy blinked. The teacher persisted, and the boy promptly answered : "twenty-four", with, as it seemed to the teacher, a wicked smile on his lips. The boy evidently was trying to fool him and was going contrary on purpose. He had

corrected this error repeatedly, and now the boy persisted in saying "twenty-four". How could this fellow be made to obtain fifty in the class test and go up by double-promotion to the first form, as his parents fondly hoped? At the mention of "twenty-four the teacher felt all his blood rushing to his head. He controlled himself, and asked again : "How much?" as a last chance. When the boy said the same thing obstinately, he felt as if his finger was releasing the trigger : he reached across the table, and delivered a wholesome slap on the youngster's cheek.

26. The boy answered the question

- (a) with fear and anxiety
- (b) with the intention to fail in the class test
- (c) to make some fun in the class
- (d) when the teacher persisted in asking

27. The teacher felt blood rushing to his head because

- (a) there was an arrogant smile on the boy's lips
- (b) he thought the boy was hopelessly dull
- (c) he thought the boy made the mistake deliberately
- (d) the boy gave a wrong answer to such a simple question

28. The teacher controlled his anger because

- (a) he remembered the fond hopes of boy's parents
- (b) he wanted to give another opportunity to the boy
- (c) the boy was too young to pick up mathematics fast
- (d) he believed that the boy must be taught the lesson again

Read the following passage and answer the questions based on it.  
I was at the shop early. He was standing behind the counter and as soon as I saw him, I knew that there would be some unpleasantness. Mr. Higson is never at his best unshaven, in slippers and braces and smoking on the empty stomach. The atmosphere of the little shop was heavy with the bitter odour of fresh newspaper pring and ink :

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<p>stacks of crisp newspapers and magazines lay neatly on the counter, and Higson and the boy were making up the daily mend.</p> <p>29. At the shop Mr. Higson appeared in</p> <p>(a) his joy of smoking (b) his most slipshod condition (c) the most unusual condition (d) in a strange mood</p> <p>30. The overall atmosphere in the shop was</p> <p>(a) pleasant, wholesome and welcome (b) heavy with a lot of goods placed there (c) with the inactivity of the early morning (d) congenial and businesslike</p> <p>Read the following passage and answer the questions based on it. A village must have some trade; and this village has always been full of virility and power. Obscure and happy, its splendid energies had found employment in wrestling a livelihood out of the earth, whence had come a certain dignity, and kindness, and love for other men. Civilization did not relax these energies, but it had diverted them; and all the special qualities, which might have helped to heal the world, had been destroyed. The family affection, the affection for the commune, the sane pastoral virtues - all had perished. No villain had done this thing; it was the work of ladies and gentlemen who were rich and often clever</p> <p>31. Village life is praised by the author because it</p> <p>(a) helps villagers to achieve material prosperity (b) makes men complacent (c) breeds human virtues (d) is free from the din and hurry of city life</p> <p>32. Civilization mainly destroys</p> <p>(a) the ability to create employment (b) family affection and pastoral virtues (c) medical facilities for the rural people</p>	<p>(d) agricultural trade</p> <p>33. The tone used by the author in the last sentence of the passage is :</p> <p>(a) Lamenting (b) Sarcastic (c) Complimentary (d) Ironic</p> <p>Read the following passage and answer the questions based on it. The art of growing old is one which the passage of time has forced upon my attention. Psychologically there are two dangers to be guarded against in old age. One of these is undue absorption in the past. It does not do to live in memories, in regrets for the good old days. One's thoughts must be directed to the future. This is not always easy; one's past is a gradually increasing weight. The other thing to be avoided is clinging to youth on the hope of sucking vigour from its vitality.</p> <p>34. "By the art of growing old", the author means</p> <p>(a) some special skill by applying which one can grow old (b) that growing old is like creating a work of art (c) the acceptance of old age as a fact of life (d) the refusal on one's part to grow old</p> <p>35. The passage deals with the process of growing old. What does it describe?</p> <p>(a) The decay of the senses in old age (b) The psychological problems of old men (c) The desire in man to grow old (d) An old man's ability to recollect his past</p> <p>36. "It does not do to live in memories". This statement means that</p> <p>(a) the past is not contained in memories (b) the old men are very forgetful (c) old men often think of the past (d) thinking of the past does no good to old men</p>
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<p>37. It is difficult for old men to think of the future because</p> <p>(a) they are unable to think</p> <p>(b) they do not know what the future is like</p> <p>(c) the past occupies their minds</p> <p>(d) their feeling that the past was far more happier than the present grows stronger day by day</p> <p>Read the following passage and answer the questions based on it.</p> <p>It was Galileo and Newton-notwithstanding that Newton himself was a deeply religious man-who destroyed the old comfortable picture of a friendly universe governed by spiritual values. And this was effected, not by Newton's discovery of the law of gravitation nor by any of Galileo's brilliant investigations, but by the general picture of the world which these men and others of their time made the basis of the science, not only of their own day, but of all succeeding generations down to the present. This is why the century immediately following Newton, the eighteenth century, was notoriously an age of religious skepticism. Skepticism did not have to wait for the discoveries of Darwin and the geologists in the nineteenth century. It flooded the world immediately after the age of the rise of science.</p> <p>38. 'The old comfortable picture of a friendly universe' was :</p> <p>(a) a universe governed by religious beliefs</p> <p>(b) a universe with men like Newton who were deeply religious</p> <p>(c) a universe investigated by Galileo and Newton</p> <p>(d) the century immediately following Newton</p> <p>39. Religious skepticism arose because :</p> <p>(a) Galileo and Newton were not religious, but scientists</p> <p>(b) Newton discovered the law of gravitation</p> <p>(c) of the discoveries of Darwin and the geologists of the nineteenth century</p> <p>(d) of the picture of the world that became the basis of science after the seventeenth century</p>	<p>40. Company X receives 16 applications for a job, 6 of which are from present employees of the company. If 3 of the applicants are to be hired, including exactly one of the applicants who is not a present employee of the company, how many distinct groups of applicants can be selected?</p> <p>(a) 560</p> <p>(b) 270</p> <p>(c) 225</p> <p>(d) 150</p> <p>41. What is the remainder when <math>x^2 - y^2</math> is divided by 3?</p> <p>(1) <math>x^2</math> is divisible by 6.</p> <p>(2) <math>y^2</math> is divisible by 9.</p> <p>(a) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.</p> <p>(b) Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.</p> <p>(c) BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.</p> <p>(d) EACH statement ALONE is sufficient.</p> <p>42. Since the 1950s, jets have steadily replaced smaller propeller planes as the preferred method of transportation within the island nation of Kawaii. Jets are quieter and more comfortable for passengers, and can fly faster and higher. The fuel efficiency of jets has steadily improved as much as 70% since the 1950s, and travel at cruising altitude is especially efficient, as motion relies mainly on aerodynamics. However, turboprop planes are now enjoying a resurgence in Kawaii, replacing jets for short trips between the islands.</p> <p>Which of the following, if true, most helps to explain why turboprop planes are enjoying a resurgence in Kawaii?</p> <p>(a) Because trips within Kawaii are relatively short, planes spend little time at cruising altitude.</p> <p>(b) As jets have become more popular, their increased price has erased the financial advantages of their fuel efficiency.</p> <p>(c) Turboprop planes have also enjoyed a resurgence in other island nations, especially those with extreme climates.</p>
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<p>(d) Many of the independent airlines that once served Kawaii have been purchased by larger multinational airlines.</p> <p>43. An oratorical society consists of six members, and at an upcoming meeting, the members will present a total of four speeches. If no member presents more than two of the four speeches, in how many different orders could the members give speeches?</p> <p>(a) 720 (b) 1080 (c) 1170 (d) 1470</p> <p>44. How many different three-digit numbers contain both the digit 2 and the digit 6?</p> <p>(a) 52 (b) 54 (c) 56 (d) 60</p> <p>45. As part of a certain game in which a computer generated a random number several times, 6 more numbers greater than 0 resulted than numbers less than 0. 0 never resulted. How many times was the result greater than zero? (1) 2 more numbers greater than 1 resulted than numbers less than 1. (2) The sum of all the numbers that resulted was 3.75.</p> <p>(a) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient. (b) Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient. (c) BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient. (d) Statements (1) and (2) TOGETHER are NOT sufficient.</p> <p>46. A small percentage of dogs are believed to be able to detect the onset of seizures in their owners. A dog with this ability will display characteristic behaviors, such as staring intently at its owner, just before a seizure occurs. Observations of epilepsy patients do not reveal</p>	<p>any noticeable change in odor, behavior, or appearance before a seizure. However, seizure-detecting dogs can predict a seizure even when the patient is in another room.</p> <p>If the statements above are true, which of the following is most strongly supported by them?</p> <p>(a) Seizure-detecting dogs are not appreciably more accurate in predicting seizures when they are in the room with a patient than when they are in another room. (b) No dogs are able to detect the onset of a heart attack in their owners. (c) Some dogs must be able to recognize a change in odor that medical science has not yet identified. (d) Seizure-detecting dogs do not rely on visual information to predict a seizure.</p> <p>47. The operation <math>\&amp;</math> is defined for all integers <math>a</math> and <math>b</math> by the equation <math>a\&amp;b = (a - 1)(b - 1)</math>. If <math>x\&amp;13 = 96</math>, what is the value of <math>x</math>?</p> <p>(a) 7 (b) 8 (c) 9 (d) 10</p> <p>48. If <math>f(x) = k(x - k)</math> and <math>k</math> is a constant, what is the value of <math>f(4) - f(3)</math>, in terms of <math>k</math>?</p> <p>(a) 1 (b) <math>k</math> (c) <math>7k - 1</math> (d) <math>k^2 + k</math></p> <p>49. If the length of Amanda's membership was rounded up to the nearest whole month by her gym, then Amanda was charged for how many months for her gym membership?</p> <p>(1) Each month's membership fee was the same, and the total charge for Amanda's membership was \$120. (2) If Amanda had ended her membership 20 days sooner, she would have been charged \$30 less.</p> <p>(a) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.</p>
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<p>(b) Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.</p> <p>(c) BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.</p> <p>(d) EACH statement ALONE is sufficient.</p> <p>50. Although the price of gasoline can sometimes reach uncomfortable highs, the true price of gas is not reflected in the price paid at the pump. Oil companies receive billions of dollars in tax credits and subsidies from the government. In addition, taxes pay for the maintenance of roads and highways, which the oil companies rely on to create a market for their product. Therefore, drivers of small, high-mileage vehicles are subsidizing the gas purchases of drivers of gas-inefficient vehicles.</p> <p>Which of the following would it be most useful to determine in order to evaluate the argument?</p> <p>(a) Whether other segments of the population, such as pedestrians or bicyclists, derive benefits from road and highway maintenance</p> <p>(b) Whether, on average, drivers of high-mileage vehicles of drivers of gas-inefficient vehicles spend more per month on gas</p> <p>(c) Whether oil companies earn a substantial proportion of their profits from automobile gasoline sales</p> <p>(d) Whether the benefits of road and highway maintenance accrue disproportionately to drivers of gas-inefficient vehicles</p> <p>51. Points X, Y, and Z lie on circle C, and line segment XY passes through the center of the circle. If the area of circle C is <math>18\pi</math>, what is the greatest possible perimeter of triangle XYZ?</p> <p>(a) 18</p> <p>(b) <math>3r^2 + 18</math></p> <p>(c) <math>6r^2 + 6</math></p> <p>(d) <math>6r^2 + 12</math></p> <p>52. certain store sold pens for \$0.35 each and pencils for \$0.25 each. If a customer purchased both pens and pencils from the store for a total of \$2.50, what total number of pens and pencils did the customer purchase?</p> <p>(a) 8</p>	<p>(b) 9</p> <p>(c) 10</p> <p>(d) 11</p> <p>53. A zoologist recorded the number of cubs under the care of each of 12 adult female lions. What was the standard deviation of the numbers of cubs under the care of the 12 adult female lions?</p> <p>(1) Each of the 12 adult female lions had either 2 or 3 cubs under her care.</p> <p>(2) 8 of the 12 adult female lions had the same number of cubs under her care.</p> <p>(a) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.</p> <p>(b) Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.</p> <p>(c) BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.</p> <p>(d) EACH statement ALONE is sufficient.</p> <p>54. Geologist: The element tantalum, which originates as a mineral ore known as coltan, is used as a capacitor in computers and cell phones. Most tantalum is exported by Canada, China, South America, and Australia. However, a small percentage of the world supply comes from poorly governed or conflict-torn regions of Africa and is mined using objectionable practices such as child labor. A group of scientists has begun working on a method that I believe will be able to detect chemical signatures that can distinguish tantalum samples according to their location of origin. Their technique needs to be further developed into a standardized and widely reproducible method of testing. If such testing becomes standard use among manufacturers and suppliers, it would allow companies and consumers a way to sanction human rights abuses through the marketplace.</p> <p>In the geologist's argument, the two portions in boldface play which of the following roles?</p> <p>(a) The first presents a circumstance for which the geologist offers an explanation; the second is part of that explanation.</p> <p>(b) The first acknowledges a consideration that weighs against the conclusion of the argument; the second is that conclusion.</p>
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<p>(c) The first acknowledges a consideration that weighs against the conclusion of the argument; the second provides evidence in support of that conclusion.</p> <p>(d) The first is a judgment advanced in support of the conclusion of the argument; the second is that conclusion.</p> <p>55. When positive integer <math>m</math> is divided by positive integer <math>n</math>, the remainder is 12. If <math>m/n = 24.2</math>, what is the value of <math>n</math>?</p> <p>(a) 120</p> <p>(b) 60</p> <p>(c) 30</p> <p>(d) 24</p> <p>56. The dimensions of a rectangular solid are 4 inches, 5 inches, and 8 inches. If a cube, a side of which is equal to one of the dimensions of the rectangular solid, is placed entirely within the rectangular solid, what the ratio of the volume of the cube to the volume within the rectangular solid that is not occupied by the cube?</p> <p>(a) 2:3</p> <p>(b) 2:5</p> <p>(c) 5:16</p> <p>(d) 25:7</p> <p>57. Working independently at their respective constant rates, machines X and Y took 15 minutes to fill an order. What fraction of the order was filled by machine X?</p> <p>(1) Working alone at its constant rate, machine X would have taken 60 minutes to fill the order. (2) Working alone at its constant rate, machine Y would have taken 20 minutes to fill the order.</p> <p>(a) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.</p> <p>(b) Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.</p> <p>(c) BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.</p> <p>(d) EACH statement ALONE is sufficient.</p>	<p>58. For years, anthropologists have viewed as the inevitable result of contact between cultures, the domination and replacement of one culture by another. This scenario was thought to have occurred when Egypt conquered its southern neighbor, Nubia, in 150 B.C. However, a recent study of a burial site of high-ranking Egyptians in Nubia reveals that some were buried according to Egyptian tradition, and other were buried according to Nubian custom. This finding indicates that members of both cultures may share in the ruling of a conquered region.</p> <p>Which of the following, if true, most strongly supports the argument?</p> <p>(a) The burial site also housed the remains of several visitors from nations other than Egypt and Nubia, and most of those visitors were buried according to Egyptian tradition.</p> <p>(b) Nubians who were buried in Egypt during the same period were buried according to Egyptian tradition.</p> <p>(c) The burial site was not used as the resting place of Egyptians until 25 years after Egypt conquered Nubia.</p> <p>(d) More than three-quarters of the people interred at the burial site are thought to have been Nubians.</p> <p>59. In a certain portfolio, the ratio of the number of domestic stocks to the number of foreign stocks is 7 to 2, and the ratio of the number of mutual funds to the number of foreign stocks is 2 to 3. If the ratio of the number of bonds to the number of domestic stocks is 4 to 3, what is the ratio of the number of mutual funds to the number of bonds?</p> <p>(a) 28 to 9</p> <p>(b) 14 to 3</p> <p>(c) 9 to 28</p> <p>(d) 1 to 7</p> <p>60. <math>p</math> is equal to the product of <math>2^x</math>, <math>3^y</math>, and <math>5^z</math>. If <math>x</math>, <math>y</math>, and <math>z</math> are positive integers and <math>x+y+z = 6</math>, what is the smallest possible value of <math>p</math>?</p> <p>(a) 64</p> <p>(b) 240</p> <p>(c) 360</p> <p>(d) 640</p>
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<p>61. Is <math>x^3</math> less than <math>x</math> ?</p> <p>(1) <math>x^3</math> is less than 1. (2) <math>x</math> is greater than <math>-1</math>.</p> <p>(a) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.</p> <p>(b) Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.</p> <p>(c) BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.</p> <p>(d) Statements (1) and (2) TOGETHER are NOT sufficient.</p> <p>62. City Council: Cities may issue municipal bonds to fund public projects. Because the interest paid to the bond holder is tax-exempt, municipal bonds are an attractive investment. So, to pay for the five state-of-the-art school buildings needed to accommodate our growing student population, Northopolis should issue a ten-year, \$200 million bond, thereby paying for the buildings with revenues from an expanding tax base.</p> <p>Which of the following, if true, casts the most serious doubt on the likelihood that the bond issue recommended above will have the result that is claimed?</p> <p>(a) Most Northopolis citizens would be reluctant to support a tax increase to pay for new school buildings.</p> <p>(b) Because municipal bond interest is tax-exempt, bond issues can severely affect a city's tax revenues for the life of the bond, despite the short-term benefits.</p> <p>(c) Many popular investments are created by pooling state and municipal bonds to create tax-exempt index funds.</p> <p>(d) Estimates of the cost of five new school buildings vary from well below \$200 million to well above \$200 million.</p> <p>63. If <math>x</math> is a randomly chosen integer between 1 and 20, inclusive, and <math>y</math> is a randomly chosen integer between 21 and 40, inclusive, what is the probability that <math>xy</math> is a multiple of 4?</p> <p>(a) <math>1/4</math></p> <p>(b) <math>1/3</math></p> <p>(c) <math>3/8</math></p>	<p>(d) <math>1/2</math></p> <p>64. An "interior segment" of a polygon is defined as any line segment that can be drawn between two points of a polygon except for the sides of the polygon itself. If polygon P is a regular octagon, how many interior segments does P have?</p> <p>(a) 20</p> <p>(b) 28</p> <p>(c) 36</p> <p>(d) 48</p> <p>65. What is the value of <math>6x^2 + x - 1</math> ?</p> <p>(1) <math>x(x + 3) = 0</math> (2) <math>x = -3</math></p> <p>(a) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.</p> <p>(b) Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.</p> <p>(c) BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.</p> <p>(d) EACH statement ALONE is sufficient.</p> <p>66. Demographic experts predict that the global human population will reach its peak sometime in the middle of this century, after which it will begin to decline. Population growth is driven primarily by high birth rates in developing countries. It is known that when women have access to education and economic opportunities, they choose to have fewer children. Therefore, these experts propose expanding educational and economic opportunities to women in developing countries to bring about an earlier and smaller population peak.</p> <p>Which of the following, if true, provides the strongest grounds to doubt that the experts' proposal, if adopted, will achieve its aim?</p> <p>(a) The demographic experts proposing expanding opportunities for women in developing countries made the same recommendations over twenty years ago.</p> <p>(b) The experts' prediction is based on realistic assessments of the educational and economic opportunities that can be made available to women in developing countries before that time.</p>
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<p>(c) Many women in industrialized countries will continue to have four or more children despite access to a variety of educational and economic opportunities.</p> <p>(d) The demographic experts fail to explain why an earlier and smaller population peak is preferable to a later and larger peak.</p> <p>67. A certain play is to be performed with an equal number of male and female actors. If 2 different male actors and 5 different female actors are available to perform, how many different combinations of actors could be chosen to perform the play?</p> <p>(a) 10</p> <p>(b) 20</p> <p>(c) 30</p> <p>(d) 40</p> <p>68. A television advertising break is to consist of six 30-second advertisements. If the second, fourth, and sixth of the 30-second spots are to be filled with three different advertisements for company X and the other spots are to be filled with one advertisement each for companies A, B, and C, in how many different ways can the six advertisements be ordered?</p> <p>(a) 729</p> <p>(b) 720</p> <p>(c) 120</p> <p>(d) 36</p> <p>69. How many of the 75 employees in a certain company had neither five years of experience nor a college degree?</p> <p>(1) Of the 75 employees, 30 had both five years of experience and a college degree.</p> <p>(2) Of the 75 employees, 20 had five years of experience but not a college degree.</p> <p>(a) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.</p> <p>(b) Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.</p> <p>(c) BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.</p> <p>(d) Statements (1) and (2) TOGETHER are NOT sufficient.</p>	<p>70. Economist: The law of demand predicts that as the price of a good goes down, demand for that good will increase, and vice-versa. In a recent experiment, economists gave coupons for rice to families in a province of China, where it is a staple food. The coupons effectively lowered the cost of rice, and should have led the families to buy more of it. Instead, households given the coupons purchased less rice than a control group who did not receive coupons.</p> <p>Which of the following, if true, most helps to explain the amount of rice purchased by families who received coupons?</p> <p>(a) Chinese families spend an unusually high proportion of their income on rice.</p> <p>(b) The prices of staple goods, including foodstuffs such as rice, do not fluctuate as much as those of non-necessary goods, such as consumer electronics.</p> <p>(c) In the months before and after the experiment, the average per-family consumption of rice in the Chinese province steadily decreased.</p> <p>(d) The availability of the coupons meant that families had more money to spend on other things, including more expensive substitutes for rice.</p> <p>71. For all integer values of <math>n</math>, <math>n\#</math> is defined as <math>2^n</math>. What is the value of <math>8\# - 7\#</math> ?</p> <p>(a) 1</p> <p>(b) 2</p> <p>(c) 56</p> <p>(d) 128</p> <p>72. <math>f(f(2)) = 16</math> for all of the following functions EXCEPT</p> <p>(a) <math>f(x) = 16</math></p> <p>(b) <math>f(x) = x + 7</math></p> <p>(c) <math>f(x) = (x + 14)/2</math></p> <p>(d) <math>f(x) = (2r2)x</math></p>
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<p>73. If J and K are points in a plane and J lies inside the circle C with center O and radius 4, does K lie inside circle C? (1) The length of line segment JK is 1 (2) The length of line segment OJ is 2.5</p> <p>(a) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.</p> <p>(b) Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.</p> <p>(c) BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.</p> <p>(d) EACH statement ALONE is sufficient.</p> <p>74. Driving under the influence is a more severe problem among college students at rural and suburban universities than at urban universities. Social scientists wanted to determine how much of the problem is due to the distance students must drive to obtain alcohol. They looked at police records for incidents involving students at a number of universities, and compared those with the mean distances between student housing and bars and liquor stores. The longer the distances, the more likely students were to be arrested or involved in accidents.</p> <p>Which of the following, if true, would it be most important to take into account in evaluating the result?</p> <p>(a) Many college students do not purchase alcohol at bars or liquor stores.</p> <p>(b) Students at rural, suburban, and urban universities are arrested for driving under the influence more frequently than are non-student members of their communities.</p> <p>(c) The average enrollment at urban universities is greater than that at rural and suburban universities.</p> <p>(d) Local sheriff's departments near rural and suburban universities devote more resources to identifying and arresting those driving under the influence than do urban police forces.</p> <p>75. On the xy-coordinate plane, what is the area of a triangle with vertices at (-4, -3), (5, -3), and (-2, -7) ?</p> <p>(a) 4</p> <p>(b) 9</p>	<p>(c) 12</p> <p>(d) 18</p> <p>76. If z is a multiple of 24, what is the remainder when <math>z^2</math> is divided by 9?</p> <p>(a) 0</p> <p>(b) 1</p> <p>(c) 2</p> <p>(d) 4</p> <p>77. certain toy store sold 20 toys yesterday, each of which was either a \$40 toy or a \$20 toy. How many \$20 toys did the toy store sell? (1) The average price of the toys sold yesterday was \$35. (2) The total price of the 20 toys sold yesterday was between \$650 and \$750.</p> <p>(a) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.</p> <p>(b) Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.</p> <p>(c) BOTH statements TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.</p> <p>(d) EACH statement ALONE is sufficient.</p> <p>78. Some large European cities, such as Paris and Barcelona, have implemented bicycle sharing programs that allow people, for a small fee, to obtain a bike at any of hundreds of locations and drop it off near their destination. Currently, most large U.S. cities face congestion with cars and taxis, have few bicycle lanes, and discourage the locking of bicycles to poles and fences. Therefore, until the culture of cities becomes less hostile to bicyclists, a wide scale program will not be a viable form of alternative transportation.</p> <p>Which of the following would it be most useful to determine in evaluating the argument?</p> <p>(a) Whether an sharp increase in the number of bicyclists in U.S. cities would change attitudes toward bicyclists</p> <p>(b) Whether U.S. who drive cars know how to operate bicycles</p> <p>(c) Whether major U.S. cities have plans to expand the availability of bicycle lanes in downtown areas</p>
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(d) Whether the number of people interested in traveling by bicycle is greater in U.S. than in Europe

79. The average (arithmetic mean) score of  $x$  students on a certain exam is 81. If one additional student takes the exam and scores a 99, the average score will increase to 83. What is the value of  $x$  ?

(a) 7

(b) 8

(c) 9

(d) 10

80.  $y = kx - 2$

In the equation above,  $k$  is a constant. If the value of  $y$  when  $x = 4$  is 5 less than the value of  $y$  when  $x = 6$ , what is the value of  $y$  when  $x = 24$  ?

(a) 21

(b) 58

(c) 60

(d) 102

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Answer Sheet

	A	B	C	D		A	B	C	D		A	B	C	D		A	B	C	D
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	21	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	41	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	61	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	22	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	42	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	62	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	23	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	43	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	63	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	24	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	44	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	64	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	25	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	45	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	65	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	26	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	46	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	66	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	27	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	47	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	67	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	28	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	48	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	68	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	29	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	49	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	69	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	30	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	50	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	70	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	31	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	51	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	71	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	32	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	52	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	72	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	33	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	53	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	73	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	34	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	54	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	74	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	35	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	55	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	75	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	36	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	56	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	76	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	37	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	57	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	77	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	38	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	58	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	78	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	39	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	59	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	79	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	40	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	60	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	80	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>