

### INSTRUCTIONS

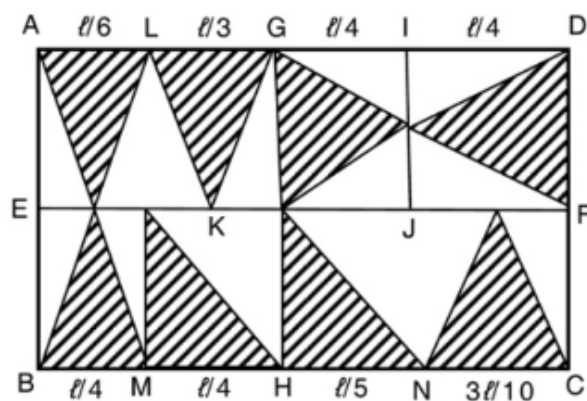
1. Read the instructions given at the beginning/end of each section or at the beginning of a group of questions very carefully.
2. This test has two sections with 60 questions – 30 questions in each section. The TOTAL TIME available for the paper is **140 minutes**. The time available for each section is 70 minutes and you cannot return to the first section once you have started the second section.
3. You are expected to show your competence in both the sections.
4. All questions carry three marks each. Each wrong answer will attract a penalty of one mark.

### SECTION – I

Number of Questions = 30

**DIRECTIONS** for questions 1 to 3: Answer the questions independently of each other.

1. If  $x$  and  $y$  are positive integers less than 8, how many distinct values can the expression  $(3x + 7y)$  take?  
(A) 49 (B) 48 (C) 21 (D) 36
2. If  $X = \{0, 1, 2, 5, 6, 8, 9\}$ , how many six-digit numbers divisible by 3 can be formed using the elements of  $X$ , without repetition?  
(A) 540 (B) 600 (C) 450 (D) 720
3. A rectangle ABCD of length  $\ell$  and breadth  $b$  is partitioned as shown in the figure below. If  $\ell = 15$  cm,  $b = 10$  cm and  $AE : EB = DF : FC$ , find the area (in sq.cm) of the shaded region.



- (A) 75 (B) 70  
(C) 110.5 (D) Cannot be determined

**DIRECTIONS** for questions 4 to 6: Answer the questions on the basis of the information given below.

The following tables give the distribution of students, according to region, during each of the five phases of the selection process of a premier management institute, for a particular year. The five phases held, in that order, are: Applying for the exam, Appearing for the Exam, Qualifying for GDs, Qualifying for Interviews and Selection for the Course.

Region wise distribution of students in each phase of selection

| Phase of selection       | Region          |                |                |                 |                      |                     |                |
|--------------------------|-----------------|----------------|----------------|-----------------|----------------------|---------------------|----------------|
|                          | Northern region | Western region | Central region | Southern region | South-Central region | East-Central region | Eastern region |
| Applied for the Exam     | 18%             | 15%            | 11%            | 23%             | 9%                   | 10%                 | 14%            |
| Appeared for the Exam    | 16%             | 14%            | 8%             | 21%             | 11%                  | 13%                 | 17%            |
| Qualified for GDs        | 13%             | 17%            | 12%            | 14%             | 15%                  | 21%                 | 8%             |
| Qualified for Interviews | 10%             | 15%            | 17%            | 8%              | 20%                  | 16%                 | 14%            |
| Selected for the Course  | 19%             | 7%             | 10%            | 16%             | 13%                  | 23%                 | 12%            |

Total No. of students in each phase of selection

| Applied for the exam | Appeared for the exam | Qualified for GDs | Qualified for Interviews | Selected for the course |
|----------------------|-----------------------|-------------------|--------------------------|-------------------------|
| 47600                | 38700                 | 6900              | 1300                     | 300                     |

Each of the following questions consists of two statements, I and II, either of which can be true or false. Study the given statements and choose the correct answer choice.

- (A) Only statement I is true.  
 (B) Only statement II is true.  
 (C) Both statements I and II are true.  
 (D) Neither statement I nor statement II is true.

4. I. The number of students who were selected for the course from the East-Central region as a percentage of those who qualified for GDs from that region is higher than the corresponding figure for any other region.  
 II. The ratio of the number of students who applied for the exam from the Southern region to that of those who appeared for the exam from the Central region is more than 3.
5. I. The number of students from the Central region who appeared for the exam but were not selected for the course is less than the corresponding figure for any other region.  
 II. In any of the given five phases, the number of students from the Western region is more than the number of students from at least two of the other regions.
6. I. The ratio of the number of students who qualified for GDs from the Southern region to the number of students who qualified for interviews from the East-Central region is more than 6.2.  
 II. The number of students from the Southern region who qualified for GDs but did not qualify for interviews is more than the corresponding figure for any other region.
9. A and B start simultaneously from P and Q towards Q and P respectively. The speeds of A and B are 25 kmph and 32 kmph respectively. They meet at R and immediately return to their respective starting positions after exchanging their speeds. If the distance between P and Q is 2000 km, then the difference in times taken by A and B to reach their respective starting positions is  
 (A) 15.5 hours  
 (B) 20 hours  
 (C) 16 hours  
 (D) 17.5 hours
10. A total of 501 digits are used in numbering the pages of a book as 1, 2, 3, 4 . . . and so on. Which of the following is a factor of the total number of pages in the book?  
 (A) 7 (B) 4 (C) 5 (D) 3
11. Let  $ab$  be a two-digit number, with  $a > b$ . The following algorithm is now performed using  $ab$ .  
 START  
 $Y = 10a + b$ ;  
 $a = a + b$ ;  
 $b = a - b$ ;  
 $a = a - b$ ;  
 $Y = Y - (10a + b)$ ;  
 Print Y  
 END

**DIRECTIONS** for questions 7 to 12: Answer the questions independently of each other.

7. Find the number of four-digit numbers that are divisible by 30 and 35 but not by 140.

(A) 21      (B) 22      (C) 43      (D) 44

8. A circle is drawn taking the line joining the points (7, 3) and (−17, −7) as diameter and another circle of radius 5 units is drawn with centre as (3, −8). Find the number of common tangents to the two circles.

(A) Four      (B) One      (C) Two      (D) Three

Which of the following statements is/are true?

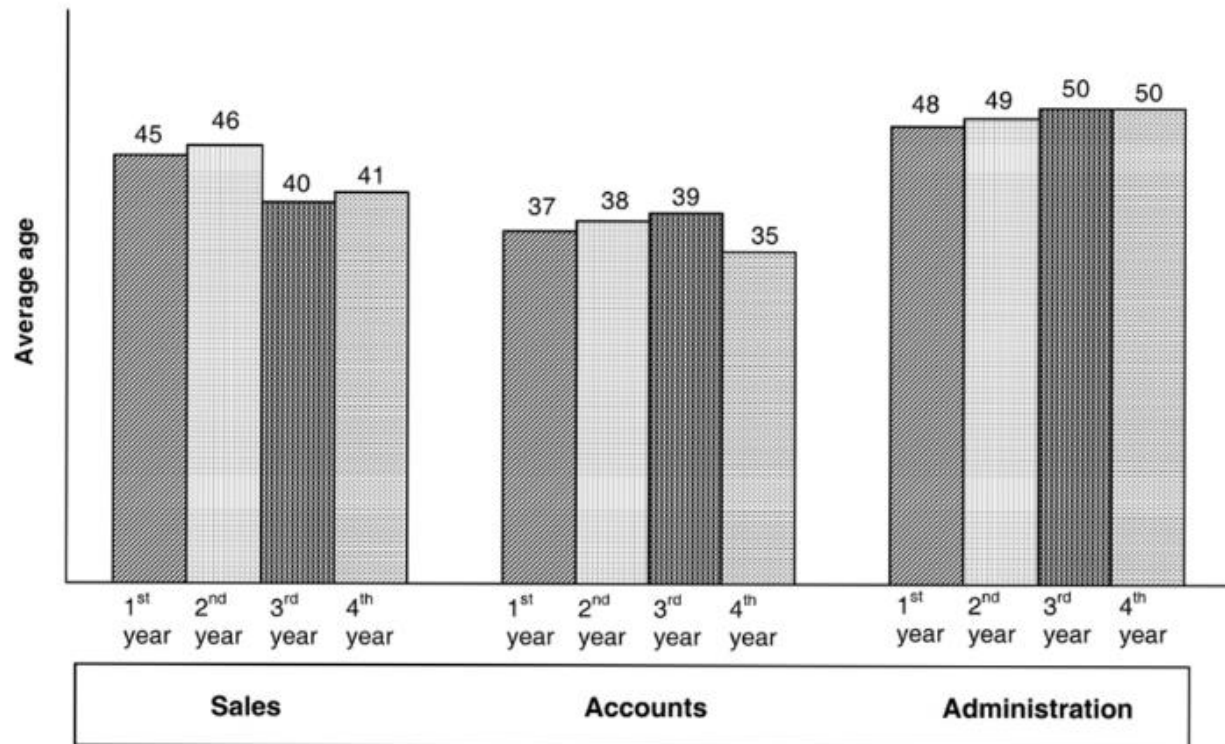
- (A) Y is always divisible by 9.  
(B) Y is always divisible by 11.  
(C) Y is always even.  
(D) More than one of the above.

12. If  $f(x) = \text{minimum of } (3x + 5, 10 - 2x)$ , what is the maximum possible value of  $f(x)$ ?

(A) 1      (B) 3      (C) 6      (D) 8

**DIRECTIONS** for questions 13 to 15: Answer the questions on the basis of the information given below.

The following bar graph gives the average ages, as on 1<sup>st</sup> April of four consecutive years, of all the employees of each of the three departments – Sales, Accounts and Administration of company XYZ. Each department had at least 5 and at most 10 employees in the first year. In each department, exactly one employee, on attaining the age of 60, retired during the given period, while in exactly one of the three departments, a new employee aged 25 joined in either the second or the third or the fourth year. No employee, other than those mentioned above, left or joined any of the departments during the given period.



13. How many employees were there in the three departments put together, during the second year?  
 (A) 15 (B) 18  
 (C) 20 (D) Cannot be determined

14. In which department did the new person join?  
 (A) Sales  
 (B) Accounts  
 (C) Administration  
 (D) Cannot be determined

19. A set S consists of 143 natural numbers, each of which is a perfect cube. The maximum number of elements of S that one can always find such that each of them leaves the same remainder when divided by 13 is  
 (A) 11 (B) 31 (C) 33 (D) 29

**DIRECTIONS** for questions 20 to 22: Answer the questions on the basis of the information given below.



15. How many people were there in the sales department in the fourth year?

- (A) 5 (B) 7  
(C) 8 (D) Cannot be determined

**DIRECTIONS** for questions 16 to 19: Answer the questions independently of each other.

16. If  $\theta$  is an angle (in radians) in the first quadrant of the  $x$ - $y$  plane, then the solution of the equation

$$8^{1+\sin\theta} + \sin^2\theta + \sin^3\theta + \sin^4\theta + \dots = 4^3 \text{ is } \theta =$$

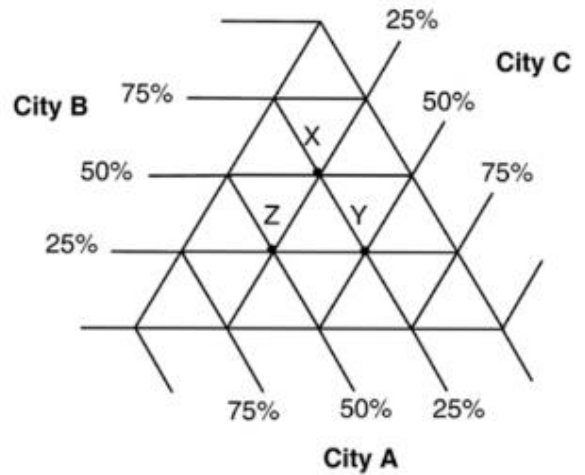
- (A)  $\frac{\pi}{2}$  (B)  $\frac{\pi}{3}$  (C)  $\frac{\pi}{6}$  (D)  $\frac{\pi}{4}$

17. If  $x$  and  $y$  are real and  $y = \sqrt{x^2 - 12x + 35}$ , then find the range of  $x$ , given that  $y < (x - 2)$ .

- (A)  $x \in \left(\frac{31}{8}, \infty\right)$  (B)  $x \in \mathbb{R} - (2, \infty)$   
(C)  $x \in (2, \infty)$  (D) None of these

18. If  $x^{1/5} > x^{1/3}$ , then how many of the following statements are definitely true about  $x$ ?

- I.  $x^2 > x^3$  II.  $x^{1/3} > x^4$   
III.  $x^{1/3} > x^{-3}$  IV.  $x^{-1/3} > x^3$   
(A) 1 (B) 2 (C) 3 (D) 4



The figure above gives the market shares of three companies – X, Y and Z – in three cities – A, B and C. The table below gives the size of the markets in cities A, B and C.

| City | Market size<br>(in ₹crore) |
|------|----------------------------|
| A    | 800                        |
| B    | 1200                       |
| C    | 1500                       |

20. Which company had the highest sales in the three cities combined?

- (A) X (B) Y  
(C) Z (D) Both (Y) and (Z)

21. The next year, the market size of city C doubled, while the market shares of the companies in city C, and the market size of the cities A and B as well as the market shares of the companies in cities A and B remained the same. What is the approximate percentage increase in the sales of company Y, if company Y has sales only in these three cities?

- (A) 40% (B) 50% (C) 60% (D) 70%

22. If a new company enters the market and captures 10% of the share of company X, 15% of that of company Y and 20% of that of company Z in the three cities, what will be the approximate overall market share of the new company in all the three cities combined?

- (A) 8% (B) 15% (C) 20% (D) 12%

**DIRECTIONS** for questions 23 to 30: Answer the questions independently of each other.

23. The number of ways of arranging  $x$  students in a row such that no two boys sit together and no two girls sit together is  $y$  ( $y > 100$ ). If one more student is added, then the number of ways of arranging as above increases by 200%. The value of  $x$  is

- (A) 12 (B) 8 (C) 9 (D) 10

26. In a poll to decide whether an office should start at 7:00 a.m. or 9:00 a.m., the 7:00 a.m. supporters exceeded the 9:00 a.m. supporters by exactly 50%. After a few days, six of the 7:00 a.m. supporters decided that they could not really wake up early in the morning and so asked for a repoll. This time, the 9:00 a.m. lobby won by three votes. How many employees were there in the office? (Assume that all other employees retain their initial preferences).

- (A) 75 (B) 27 (C) 45 (D) 36

27. In a square grid of eleven rows and eleven columns, all the numbers present in each row and each column are in arithmetic progression. If the difference between any two consecutive numbers in a row or column is 2 and the number in the middle row and the middle column of the grid is 22, then find the sum of all the numbers present in the grid.

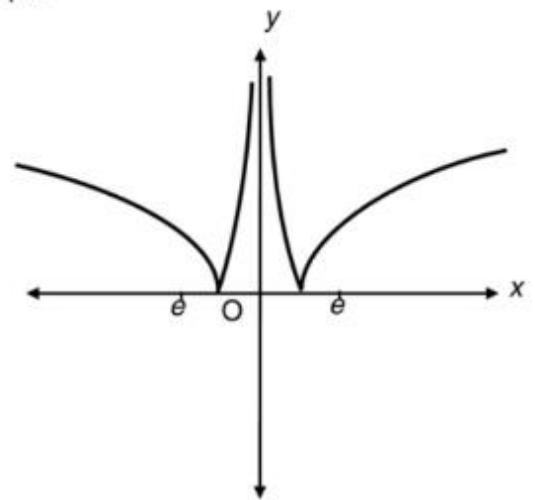
- (A) 1331 (B) 2662 (C) 5324 (D) 4455

28. A quadrilateral ABCD is drawn with  $\overline{AC}$  as a diagonal. E and F are points on  $\overline{AC}$ , such that both  $\overline{BE}$  and  $\overline{DF}$  are perpendicular to  $\overline{AC}$ . If the lengths of  $\overline{BE}$  and  $\overline{DF}$  are in the ratio 3 : 4, and  $AE : EF : FC = 2 : 3 : 1$ , find the ratio of the areas of triangle ABC and quadrilateral ABCD.

- (A) 3 : 7  
(B) 5 : 7  
(C) 4 : 7  
(D) Cannot be determined

24. If the sum of three distinct integers is 16, which of the following statements is true?
- (A) To obtain the maximum or the minimum possible product, one of the three integers must be 5.
- (B) To obtain the maximum or the minimum possible product, one of the three integers must be 6.
- (C) The maximum possible product of the three integers is 150.
- (D) None of these
25. Ajay, Balram and Chandu are three thieves. Each of them is standing at a different corner of a park which is in the shape of a right-angled triangle. There is a diamond at the mid-point of the longest side of the park. Ajay and Balram are at the two ends of the longest side while Chandu is at the third corner. All three of them simultaneously start running towards the diamond such that the speed of Ajay is 20% more than that of Balram, whose speed, in turn, is  $16\frac{3}{4}\%$  less than that of Chandu. Who will reach the diamond first? (Assume that all three take the shortest path to the diamond.)
- (A) Balram and Chandu
- (B) Balram
- (C) Chandu
- (D) Ajay

29. Find the function that best represents the following graph.



- (A)  $\log |x|$
- (B)  $|\log |x||$
- (C)  $\log \left| \frac{1}{x} \right|$
- (D)  $\log |1 - x|$
30. The number of distinct points at which the curve  $x^3 - 3x^2 + y^2 + 2x - 2y = 0$  intersects either the x-axis or the y-axis is
- (A) four.
- (B) three.
- (C) one.
- (D) five.

**SECTION – II****Number of Questions = 30****DIRECTIONS** for questions 1 to 3: Read the following passage and answer the questions that follow it.

**D**oes America take philosophy seriously? One might as well ask whether America takes monarchy seriously. Joking about philosophy in the United States or just ignoring it comes with everyone from the Pilgrims to the slaves to the boat people – we pick it up along the way, like mistrusting politicians, refinancing mortgages, or choosing whiz-bang smartphones.

It's the way Americans are supposed to think about a discipline described by Ambrose Bierce as "a route of many roads, leading from nowhere to nothing," and by historian Henry Adams as a field that offers "unintelligible answers to insoluble problems".

Tocqueville, that touchstone for all synoptic thinking about America, thought the peculiar attitude of its residents toward philosophy so obvious that he began the second volume of *Democracy in America* by noting it. "I think that in no country in the civilized world is less attention paid to philosophy than in the United States. The Americans have no philosophical school of their own, and they care but little for all schools into which Europe is divided".

Even Tocqueville, however, nodded. For all his general insight into the fledgling United States, he, like many French intellectuals, saw American thought through the prism of European assumptions. The conclusion he drew from that putative intellectual state of affairs – that "in most of the operations of the mind each American appeals only to the individual effort of his own understanding" – was false then and is even more false now. His misstep came in using the word "only". He should have written that each American "also" appeals "to the individual effort of his own understanding".

For the surprising little secret of that ardently capitalist, famously materialist, heavily iPodded, iPadded, and iPhoneed society is that America in the early 21<sup>st</sup> century towers as the most, philosophical culture in the history of the world, an unprecedented marketplace of truth and argument that far surpasses ancient Greece, Cartesian France, 19<sup>th</sup> century Germany, or any other place one can name over the past three millennia. The openness of its dialogue, the quantity of its arguments, the diversity of its viewpoints, the cockiness with which its citizens express their opinions, the vastness of its First Amendment freedoms, the intensity of its hunt for evidence and information, the widespread rejection of truths imposed by authority or tradition alone, the resistance to false claims of justification and legitimacy, the embrace of Net communication with an alacrity that intimidates the world: All corroborate that fact.



1. Which of the following best describes the purpose of the first paragraph?
  - (A) To support a rhetorical question with sarcastic observations.
  - (B) To suggest that philosophy is anathema to Americans.
  - (C) To illustrate that America cannot be reduced to a philosophical phenomenon.
  - (D) To highlight the popular notion of America being disregarded of philosophy.
2. The author of the passage asserts which of the following with "All corroborate that fact"?
  - (A) Americans don't take philosophy seriously.
  - (B) American irreverence, far from posing a threat to philosophical activity, fuels it.
  - (C) America is the world's philosophical culture par excellence.
  - (D) American caricature of philosophy is evidence of a nonphilosophical culture.
3. The passage implies which of the following in the context "Even Tocqueville ... nodded".
  - (A) He traced the roots of philosophical America to European thoughts.
  - (B) He reinforced the traditional image of an unphilosophical America.
  - (C) He conclusively refuted America's philosophical position.
  - (D) He concurred with European clichés of American intellectual thought.

**DIRECTIONS for questions 4 and 5:** In each question, the word in capitals is used in four different ways, A to D. Choose the option in which the usage of the word is INCORRECT or INAPPROPRIATE.

4. MARK

- (A) Shops and establishments pulled down their shutters as a mark of respect for the departed leader.
- (B) A.R. Rehman made his mark in the music world very early in his career.
- (C) Before the new year, all car companies mark down prices to promote sales.
- (D) The opinion poll was wide off the mark.

5. PITCH

- (A) He was criticized for his behaviour, both on and off the pitch.
- (B) We thought she wouldn't pitch up and decided to proceed with the programme.
- (C) Marketing executives went to three countries to pitch in their products.
- (D) Despite her age, Asha can sing at a high pitch effortlessly.

**DIRECTIONS for question 6:** The sentences given in the question, when properly sequenced, form a coherent paragraph. Each sentence is labelled with a letter. From among the four choices given below the question, choose the most logical order of sentences that constructs a coherent paragraph.

6. (a) In their popular-philosophizing mode, physicists like to quote the poets Keats ("beauty is truth,

- truth beauty") or Blake on the subject of nature's "fearful symmetry."
- (b) From Euclid and Pythagoras down to 20th-century physicists, many who explore the underlying laws of the natural world have seen truth and beauty as inextricably intertwined.
- (c) Does science have a "beauty" problem?
- (d) "Beauty is a successful criterion for selecting the right theory," the Nobel Prize-winning physicist Murray Gell-Mann said in a much-quoted TED talk in 2007
- (e) David Orrell, a mathematician and consultant, argues that it does—or, at least, that some of its practitioners are in thrall to ideals involving "elegance," "symmetry," and "unity" that are beckoning them down false paths.
- (A) dabce (B) dbace  
(C) cebda (D) cdabe

**DIRECTIONS** for questions 7 to 10: Read the following passage and answer the questions that follow it.

There are two cathedrals in Coventry. The newer one, consecrated on May 25, 1962, stands beside the remains of the older one, which dates from the fourteenth century, a ruin testifying to the bombardment of the Blitz. Three years before the consecration, in one of the earliest ventures in the twinning of towns, Coventry had paired itself with Dresden. That gesture of reconciliation was recapitulated in 1962, when Benjamin Britten's War Requiem received its first performance at the ceremony. The three soloists were an English tenor (Peter Pears), a German baritone (Dietrich Fischer-Dieskau), and a British soprano (Heather Harper).

Since the 1960s, historians have worked – and debated – to bring into focus the events of the night of February 13, 1945, in which an Allied bombing attack devastated the strategically irrelevant city of Dresden. An increased understanding of the decisions that led to the fire-bombing and of the composition of the Dresden population that suffered the consequences, have altered subsequent judgments about the conduct of war. The critical light of history has been reflected in the contributions of novelists and critics, and of theorists of human rights. Social and political changes, in other words, followed the results of humanistic inquiry, and were intertwined with the reconciliatory efforts of the citizens of Coventry and Dresden. Even music and poetry played roles in this process: what history has taught us is reinforced by the lines from Wilfred Owen that Britten chose as the epigraph for his score – "My subject is war, and the pity of war. The poetry is in the pity. All a poet can do today is warn". It is so easy to underrate the impact of the humanities and of the arts. Too many people, some of whom should know better, do it all the time. But understanding why the natural sciences are regarded as the gold standard for human knowledge is not hard. When molecular biologists are able to insert fragments of DNA into bacteria and turn the organisms into factories for churning out medically valuable substances, and when fundamental physics can predict the results of experiments with a precision comparable to measuring the distance across North America to within the thickness of a human hair, their achievements compel respect, and even awe. To derive one's notion of human knowledge from the most striking accomplishments of the natural sciences easily generates a conviction that other forms of inquiry simply do not measure up. Their accomplishments can come to seem inferior, even worthless, at least until the day when these domains are absorbed within the scope of "real science".

The conflict between the Naturwissenschaften and the Geisteswissenschaften goes back at least two centuries, and became intensified as ambitious, sometimes impatient researchers proposed to introduce natural scientific concepts and methods into the study of human psychology and human social behaviour. Their efforts, and the attitudes of unconcealed disdain that often inspired them, prompted a reaction, from Vico to Dilthey and into our own time: the insistence that some questions are beyond the scope of natural scientific inquiry, too large, too complex, too imprecise, and too important to be addressed by blundering over-simplifications. From the nineteenth-century ventures in mechanistic psychology to contemporary attempts to introduce evolutionary concepts into the social sciences, "scientism" has been criticized for its "mutilation" of the phenomena to be explained.

7. It can be inferred from the passage that the Naturwissenschaften and the Geisteswissenschaften differed in which of the following respects?
- (A) The former is based on natural sciences and the latter on social sciences.  
 (B) The former deals with hypotheses and the latter with empiricism.  
 (C) The former is on the science of nature and the latter is on the arts.  
 (D) The former is based on human sciences and the latter on natural sciences.
8. Which of the following about 'War Requiem' is true, according to the passage?
- (a) It marked the third anniversary of the consecration of the new Coventry Cathedral.  
 (b) The orchestra sings Owen's poem in the finale.  
 (c) It was first performed in 1962.  
 (d) It laments the horror of war.
- (A) (a), (c), (d) (B) (a), (b), (d)  
 (C) Only (c) and (d) (D) (a), (b), (c), (d)
9. Which of the following best describes the author's attitude towards natural scientific imperialism?
- (A) Unqualified approval  
 (B) Mildly disapproving  
 (C) Severely critical  
 (D) Open-minded
10. The author of the passage presents details that suggest that 'scientism' falls short in which of the following respects?
- (A) It believes in the universal applicability of the scientific method.  
 (B) It eliminates the abstract dimensions of experience.  
 (C) It believes that empirical science constitutes the most authoritative worldview.  
 (D) All of the above.



**DIRECTIONS** for questions 11 and 12: There are two blanks in each question. From the pairs of words given below each sentence choose the pair that fills the blanks most appropriately.

11. The great material progress of recent times, coming in a world where fake philosophies reign, has \_\_\_\_\_ men's sense of proportion; the material has \_\_\_\_\_ the sovereignty that is the right of the individual.  
 (A) distorted . . . usurped  
 (B) prejudiced . . . plundered  
 (C) skewed . . . overthrown  
 (D) disturbed . . . undermined
12. A borrowed book is like a guest in the house; it must be treated with \_\_\_\_\_, with a certain considerate \_\_\_\_\_.  
 (A) respect . . . understanding  
 (B) punctiliousness . . . formality  
 (C) propriety . . . modesty  
 (D) reverence . . . decorum

**DIRECTIONS** for questions 13 and 14: Each of the following questions has a paragraph from which the last sentence has been deleted. From the given options, choose the sentence that completes the paragraph in the most appropriate way.

13. Dozens of muscles are exercised when one laughs heartily. Endorphins get activated in the brain promoting a sense of joy and well-being. Also, many scientific studies have pointed to the healing effect of laughing. And when one is able to laugh at oneself there is an added psychological benefit too. \_\_\_\_\_  
 (A) Because we may end up believing that we have a great sense of humour.  
 (B) For when the motive of humour is only to cause and experience pleasure, humour can be physiologically very desirable.  
 (C) For this signals to others and oneself that one is emotionally secure and comfortable under one's skin.  
 (D) For we will be able to laugh at our mistakes and handle criticism better.

- (C) Besides, there have been other gurus, plans, drugs and devices, but most offer short-lived results and long-term angst.  
 (D) Besides, lasting changes need slow but steady modifications to lifestyle.

**DIRECTIONS** for questions 15 and 16: In each question, there are five sentences or parts of sentences that form a paragraph. Identify the sentence(s) or part(s) of sentence(s) that is/are correct in terms of grammar, punctuation, spelling and usage. Then, choose the **most appropriate** option.

15. (a) On another occasion, an incendiary bomb, a thermite bomb, fell behind our house  
 (b) and burned with a terrible, white-hot heat. My father had a stirrup pump, and my brothers carried  
 (c) pails of water to him, but water seemed useless against this infernal fire – indeed, made it burn even more furiously.  
 (d) There was a vicious hissing and sputtering when the water hit the white-hot metal, and  
 (e) meanwhile, the bomb was melting its own casing and throwing blobs and jets of molten metal in all directions.  
 (A) a, b and d (B) b, c and d  
 (C) b and c (D) a, b and e
16. (a) Nancy caught sight of the woman she had followed – at the far end of an aisle,  
 (b) putting cans into a shopping cart. She appeared even younger now than she was at a distance.  
 (c) On her right hand, she had what looked like improvised glove.  
 (d) It covered some kind of deformity or injury for she was clearly using only her left hand.  
 (e) Reaching out, she picked up a jar of oil and read the label.  
 (A) a, d and e (B) Only e  
 (C) c and e (D) a and e.

**DIRECTIONS** for questions 17 and 18: Each of the following questions presents four statements, of which three, when placed in appropriate order, would form a contextually complete paragraph. Pick the statement that is not part of that context.



14. After the binge of the holidays, many stumble into January with a hangover, some fragile resolutions and a desire to shed a few pounds. Alas, few will benefit from rigid calorie-counting or cabbage-soup slurping. In a recent study of 31 long-term diet plans, the American Psychological Association found that up to two-thirds of participants ended up heavier than before they started. Some diets are more sensible than others, but any regimen that promises swift and dramatic results will doom most followers to failure. Weight-loss pills and surgery are similarly ineffective—and sometimes dangerous—over time. \_\_\_\_\_
- (A) "Because the diet industry is all about exploitation and profit," writes Louise Foxcroft in "Calories".
- (B) Yet girth-management is big business, full of charismatic hucksters and fake science (fat-burning lip balm?), earning \$40 billion a year in America alone.
17. (A) The Happiness Project is part of a long American tradition of self-help books dating back at least to Benjamin Franklin.
- (B) There are many books about happiness.
- (C) It's a subject of serious study within the fields of psychology and behavioral economics.
- (D) While it has a long history as a legal term, "self-help" was first used in the context of personal development in Samuel Smiles' 1859 book of that name.
18. (A) There is no doubt that hedge-fund managers have been good at making money for themselves.
- (B) With keen eyes and sharp brains, they spot and exploit inefficiencies in the markets.
- (C) Hedge-fund managers are the smartest investors around.
- (D) Or at least that is what the industry tells its clients.

**DIRECTIONS** for questions 19 to 21: Read the following passage and answer the questions that follow it.

**C**an anything be bought and sold? Are there no limits to what is for sale?

We are familiar with the fact that if you have money you can get to the head of almost any line, whether at the airport or the doctor's office. Some people sell advertising space on their foreheads, some sell the use of their wombs for other people's pregnancies and some their kidneys. In Michael Sandel's resonant phrase, what once were market economies have become market societies. He argues, almost anything can in fact be purchased, or at least achieved by bribe.

That sort of practice is not hard to recognize as undesirable, even corrupting. He makes the grim case that such bottom-line thinking has become alarmingly pervasive: "As markets and market-oriented thinking reach into spheres of life traditionally governed by nonmarket norms – health, education procreation, refugee policy, environmental protection – this dilemma arises more and more often," Sandel writes. "What should we do when the promise of economic growth or economic efficiency means putting a price on goods we consider priceless?"

Sandel argues that there are two arguments always in play when debates arise about what is appropriate for money to buy. They can be phrased as objections, one concerning fairness and the other concerning corruption. He writes, "The fairness objection asks about the inequality that market choices may reflect; the corruption objection asks about the attitudes and norms that market relations may damage or dissolve". The market for human kidneys, for example, preys on the poor, and the choice made by an individual to sell a kidney in such circumstances is not genuinely voluntary. That is the fairness objection. The corruption objection is that trade in the organs of living humans degrades and objectifies them into collections of spare parts. As Sandel puts it, "The fairness objection points to the injustice that can arise when people buy and sell things under conditions of inequality or dire economic necessity ... The corruption objection points to the degrading effect of market valuation and exchange on certain goods and practices".

But as Sandel acknowledges, there are plenty of cases where it is not clear whether a money value is wholly inappropriate. Take the case of a person waiting in line for theatre tickets on someone else's behalf. Poverty might drive a person to do this, but doing this is not so extreme a sacrifice as selling a kidney. Surely if someone sells his time, he is only doing what everyone does anyway. Someone who pays a surrogate to wait in line is demonstrating a willingness to bear the cost of realizing his desire to have the tickets; the market is directing the tickets to the person keenest to have them. As Sandel also notes, though, in this case the tickets are going to the person not only with the greatest desire to have them but also the greatest ability to secure them.

This implies the question of fairness again. But it also obliges us to inspect an assumption that underlies the fairness complaint; whether the fact that different people have different levels of resource is always unjust. What about the greater talent or harder work that results in a person's accumulating resources greater than those of a less capable or lazier person? If the better-resourced person uses a moiety of his resources to pay a surrogate to wait in line – a surrogate who might be pleased to earn money this way – where is the harm? Is it not, on the contrary, a case of mutual benefit? And surely mutual benefit is the aim and outcome of many monetary transactions between people.

These objections notwithstanding, Sandel's case is compelling. Buying a bride, bribing people in desperate circumstances to sell a bodily organ, making people do bad things by paying them more than their scruples can resist, allowing people to do bad things because they can pay a lot to do them – such things add up to a profound corrosion of values.

The task Sandel invites us to undertake is to discern where the lines should be drawn between the marketable and the unmarketable, the things that have a price and those that are priceless.

19. An appropriate title for the passage would be:
- (A) Modern Times: All for Sale
  - (B) What money shouldn't buy: The Moral Limits of Markets
  - (C) Market Reasoning, Corrosion of Values
  - (D) Price of Everything: Value of Nothing

20. Sandel implies which of the following in the case of a surrogate waiting in line for theatre tickets?
- (A) Money is an object of desire in its own right.
  - (B) One's time is a tradable commodity in the market.
  - (C) Seeing everything as having a price is corrosive of value.
  - (D) Assigning money value may be acceptable in certain circumstances.

21. The author implies which of the following about the assumption underlying the fairness complaint?

- (A) Money is a convenience to redistribute wealth in the economy.
- (B) Inequalities of resource may be justified where due.
- (C) Unequal resource generates inequity in society.
- (D) Some things are intrinsically more valuable than other things.

**DIRECTIONS** for questions 22 to 24: Answer the questions on the basis of the information given below.

In a locality there are five buildings – A, B, C, D and E. All of them are of different heights. The tallest building has five floors, the next tallest has four floors, and so on, till the shortest which has only one floor.

Further it is known that:

- (i) The sum of the number of floors in A and E is equal to the sum of the number of floors in C and D.



- (ii) C is not the tallest building and A is not the shortest building.  
 (iii) C is taller than A and D is taller than B.

22. Which building is the shortest?

- (A) B (B) A  
 (C) E (D) Either B or A

23. If D is taller than C, then for how many of the following pairs of buildings is the sum of floors a perfect square?

- (i) B and A (ii) D and E (iii) C and B  
 (A) 0 (B) 1 (C) 2 (D) 3

24. If D is taller than C, then which of the following is true?

- (A) If the buildings, from left to right, are in the ascending order of their heights, then no two buildings whose names are consecutive alphabets are adjacent to each other.  
 (B) The sum of the number of floors in C and A is equal to the number of floors in E.  
 (C) The sum of the number of floors in D and E is a prime number.  
 (D) B is not shorter than C.

**DIRECTIONS** for questions 25 to 27: Answer the questions on the basis of the information given below.

Four exams are to be ranked from 1 to 4 on the basis of the number of test takers – the one with the highest number of test takers being ranked 1 and the one with the least number of test takers, being ranked 4. The exams to be ranked are MAGT, REG, TILES and FELTO.

The following data is known regarding the ranking:

- (a) If MAGT is ranked 1, then REG is not ranked 3.  
 (b) If REG is not ranked 1, then FELTO is ranked 4.  
 (c) If TILES is ranked 3, then FELTO is not ranked 2.  
 (d) If TILES is not ranked 2, the FELTO is ranked 2.  
 (e) If FELTO is ranked 3, then MAGT is not ranked 4.

25. Which exam has the highest number of test takers?

- (A) MAGT (B) REG  
 (C) TILES (D) FELTO

26. Which exam has the least number of test takers?

- (A) FELTO  
 (B) TILES  
 (C) REG  
 (D) Cannot be determined

27. Which exam is ranked third?

- (A) FELTO (B) TILES  
 (C) REG (D) MAGT

**DIRECTIONS** for questions 28 to 30: Answer the questions on the basis of the information given below.

Four teams – A, B, C and D – participated in a three-day cricket tournament. Each team plays exactly one match on each day, i.e., day 1, day 2 and day 3, and plays with a different team on each day.

28. If B plays with A on day 2, which of the following statements is definitely true?

- (A) If A plays with D on day 3, then C plays with B on day 1  
 (B) If B plays with D on day 3, then C plays with B on day 1  
 (C) C plays with D on day 3  
 (D) B plays with D on day 1.

29. If C plays with D on the day after it plays with A, then which of the following statements is definitely false?

- (A) B plays with D on day 1  
 (B) B plays with C on day 3  
 (C) A plays with D on day 2  
 (D) More than one of the above

30. If A did not play with C on day 1 and B did not play with A on day 2, then who played against A on day 3?

- (A) B  
 (B) C  
 (C) D  
 (D) Cannot be determined