1. What is the sum of all those factors of 1800 whose unit digit is 5?
(a) 5850 (b) 360 (c) 403 (d) 390

2. A tailor cuts two equal semicircular pieces from a rectangular cloth of dimensions 80m x 40m. What is the minimum possible area (in sq m) of the cloth that is left?
(a) $3200 - 400\pi$ (b) $3200 - 625\pi$ (c) $3200 - 484\pi$ (d) $3200 - 900\pi$

3. How many integer values of x satisfy $|x - 2| + |x + 3| + |5 - x| + |x - 8| < 16$?
(a) 2 (b) 4 (c) 6 (d) Infinite

4. Dhurandhar deposits some money in Lena Bank at the rate of 20% p.a. simple interest. He withdraws the money after one year, deposits it in Parajaya Bank at the rate of R% p.a. compound interest (with annual compounding) for two years and gets Rs 2880 as the total interest from Parajaya Bank. If the first year's interest at Parajaya Bank was Rs 1200, then what amount (in Rs) had Dhurandhar deposited in Lena Bank?
(a) 10000 (b) 5000 (c) 2500 (d) 4000

5. In a vocational college, the number of students registered for courses A, B, C and D are 108, 120, 72 and 96 respectively. The students of three of the four courses are divided into batches of equal size (across these three courses) and each of these divisions is assigned a separate classroom. All the students of the fourth course are made to sit in a single classroom. What is the minimum number of classrooms that are required?
(a) 13 (b) 24 (c) 9 (d) 26

6. How many 3 digit numbers abc are there such that either $a > b > c$ or $a < b < c$?
(a) $2 \times {}^{9}C_3 + {}^{9}C_2$ (b) $2 \times {}^{10}C_3$ (c) $2 \times {}^{9}C_3 + {}^{10}C_2$ (d) None of these

7. PQRS is a parallelogram. The points R and S are shifted, keeping the points P and Q fixed, in such a way that the figure remains a parallelogram. If the lengths of all the sides of the parallelogram also remain the same, then what is the locus of the point of intersection of the diagonals of PQRS?
(a) A circle (b) A straight line (c) A fixed point (d) None of these

8. The volume of sphere 'Y' is 2600% higher than that of sphere 'X'. If the surface area of 'X' is P% lower than that of 'Y', then what is the value of P?
(a) 800 (b) 87.5 (c) 90 (d) 88.89

9. The two adjacent sides of a quadrilateral are 6 cm and 8 cm long. What is the maximum possible area of the quadrilateral (in sq cm) if it is inscribed in a circle of radius 5 cm?
(a) 45 (b) 48 (c) 49 (d) 50

10. The medians AD and BE of a triangle with vertices A(0, b), B(0, 0) and C(a, 0) are perpendicular to each other if
(a) $b = \sqrt{3}a$ or $-\sqrt{3}a$ (b) $a = \sqrt{3}b$ or $-\sqrt{3}b$
(c) $a = \sqrt{2}b$ or $-\sqrt{2}b$ (d) $b = \sqrt{2}a$ or $-\sqrt{2}a$

11. Players from only two countries Dakistan and Pagladesh participated in a Ludo tournament. Each game of the tournament involved 3 players with no two games having the same set of 3 players. The number of games involving only Dakistani players was 455 and the number of games involving only Pagladeshi players was 120. If the total number of games played in the tournament was maximum possible, then how many games involved at least one player each from Dakistan and Pagladesh?
(a) 1675 (b) 1825 (c) 1625 (d) 1725

12. What is the sum of the coefficients of the polynomial
$(x-2)^6(x-4)^2+(x+1)^3(x-2)^3+(x+1)^2(x-4)^3$?
(a) –53 (b) –107 (c) 0 (d) None of these

13. Two consecutive numbers are removed from a list of first 'n' natural numbers. The average of the remaining numbers is $21\frac{1}{3}$. What is the product of the two numbers that have been removed?
a. 210 b. 756
c. 240 d. Cannot be determined

14. If $\frac{1}{1!.19!}+\frac{1}{3!.17!}+\frac{1}{5!.15!}+.....+\frac{1}{19!.1!}=\frac{2^a}{b!}$, then what is the sum of a and b?
(a) 20 (b) 30 (c) 29 (d) 39

15. There are 501 letters and 501 envelopes. Each letter belongs to exactly one of the envelopes. If each letter is put into an empty envelope randomly, then what is the probability that exactly 4 letters go into an incorrect envelope?
(a) $\frac{^{501}C_4\times 17}{501!}$ (b) $\frac{^{501}C_4\times 10}{501!}$ (c) $\frac{^{501}C_4\times 9}{501!}$ (d) $\frac{^{501}C_4\times 18}{501!}$

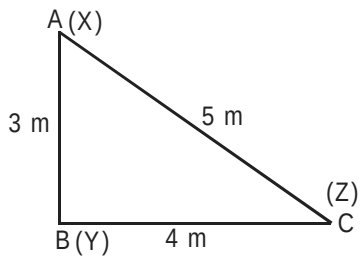
16. Alok and Shantanu are siblings who study in the same school. They go to their school on bicycles through the same route every day. One day, Alok leaves home at 7:00 am and rides at a constant speed of 8 kmph until he reaches the school. After spending 5 minutes and 30 seconds at school, he realises that he has forgotten his lunch box at home. He immediately heads back riding at a constant speed of 5 kmph. At 7:25 am, he meets Shantanu, who had left home at 7:12 am, and is riding at a constant speed of 6 kmph. What is the distance (in km) between their home and school?
(a) 9 (b) 5 (c) $\frac{9}{5}$ (d) $\frac{5}{9}$

17. P is a set of factors of 180 such that no element of the set is a multiple of any other element. What is the maximum number of elements that P can have?
(a) 4 (b) 5 (c) 6 (d) 3

18. How many ordered sets (a, b, c, d) exist such that a, b, c, d are integers and $a \times b \times c = d$, $b \times c \times d = a$, $c \times d \times a = b$, $d \times a \times b = c$?
(a) 3 (b) 2 (c) 9 (d) 7

19. PQRSTUVWXY is a ten digit number with distinct digits such that P > Q > R, S > T > U, V > W > X > Y. S, T, U are consecutive even digits and V, W, X, Y are consecutive odd digits. If P + Q + R = 9, then what is the value of R + S + T?
(a) 8 (b) 9 (c) 10 (d) Cannot be determined

20. X, Y and Z are three ants who are at points A, B and C respectively (See the figure). They start crawling at the same time, with equal and uniform speeds, along the perimeter of triangle ABC in the anticlockwise direction. What is the distance (in m) between Y and Z when X reaches point B for the first time?



(a) $\sqrt{\frac{32}{25}}$ (b) $\sqrt{\frac{13}{5}}$ (c) $\sqrt{\frac{26}{5}}$ (d) $\sqrt{15}$

Directions for questions 21 to 23: Answer the following questions on the basis of the information given below.
A retailer has some chocolates in five different boxes T1, T2, T3, T4 and T5. Table 1 provides the data about the number of chocolates (N), the average weight per chocolate in grams (AWG) and the average selling price per chocolate in Rs (SPR) for each of the five boxes. Table 2 shows the relationship between AWG and the customer satisfaction index (CSI).

Box	N	AWG	SPR
T1	8	90	15
T2	24	45	12
T3	16	70	11
T4	32	65	18
T5	20	85	17

Table 1

AWG	CSI
AWG $\leq$ 50	60
50 < AWG $\leq$ 60	70
60 < AWG $\leq$ 70	80
70 < AWG $\leq$ 80	90
80 < AWG	100

Table 2

21. All the chocolates of box T2 are to be mixed with all the chocolates of exactly one of the other four boxes. Which box should be chosen to maximise the CSI of the mixture?
(a) T5 (b) T3 (c) T1 (d) T4

22. If the retailer wants to keep the CSI of the mixture at least 70 and the SPR between 13 and 15, which of the following combinations should he make?
(a) T1, T2 and T3 (b) T2, T3 and T4 (c) T3, T4 and T5 (d) T1, T4 and T5

23. If 4 chocolates of box T1 are mixed with 3 chocolates of box T2, then what is the CSI of the mixture?
(a) 90 (b) 80 (c) 70 (d) Cannot be determined

24. Five seats, numbered 1 to 5, lie in a row in the same order. They are occupied by five people Xavi, Iniesta, Villa, Torres and Casillas in the order of increasing seat numbers. Each person changes his seat after some time and writes down the value of the absolute difference between the numbers of the two seats occupied by him. If the sum of these five values is found to be the minimum possible, then which of the following statements regarding their new seating arrangement is definitely not true?

(a) Iniesta sits beside Casillas.
(b) Exactly two people sit between Villa and Torres.
(c) Xavi sits beside Torres.
(d) Exactly two people sit betweem Xavi and Iniesta.

25. The question given below is followed by two statements, A and B. Mark the answer using the following instructions:
Mark (a) if the question can be answered by using either statement alone.
Mark (b) if the question can be answered by using one of the statements alone, but cannot be answered by using the other statement alone.
Mark (c) if the question cannot be answered even by using both the statements together.
Mark (d) if the question can be answered by using both the statements together, but cannot be answered by using either statement alone.

Q. Six tennis players Abhas, Golu, Nagendra, Puneet, Saral and Vikas are ranked 1 to 6 in the same order. Each player plays exactly one match against one of the other five players. Neither Saral nor Nagendra plays against Puneet. All the three matches are won by the better ranked player. At least one among Abhas, Golu and Nagendra does not win his match. Who plays against whom?

A. Golu does not win his match.

B. Golu and Saral don't play against each other. Only one of them wins his match.

Directions for questions 26 to 29: Answer the following questions on the basis of the information given below.
Seven players A, B, C, D, E, F and G participate in a Chess tournament in which each player plays exactly once against each of the other six players. The tournament starts on Monday, finishes on Wednesday and an equal number of matches is played on all the three days. Some of the observations made on each day are given below:

Monday
- F loses to C, D, E and G.
- Only one player, who is not C, wins more than one match on Monday.

Tuesday
- B wins against C, D and E.
- E loses to A and C.
- G wins exactly two matches on Tuesday.

Wednesday
- G loses to B but wins against A and C.
- D wins against C and E.
- F loses to A and B.

NOTE: None of the matches ends in a draw and all the players win a distinct number of matches in the tournament.

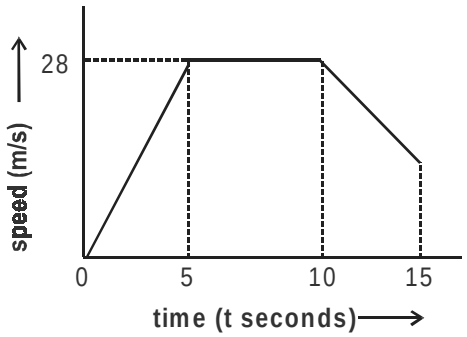
26. Who wins the highest number of matches in the tournament?
(a) C (b) A (c) D (d) B

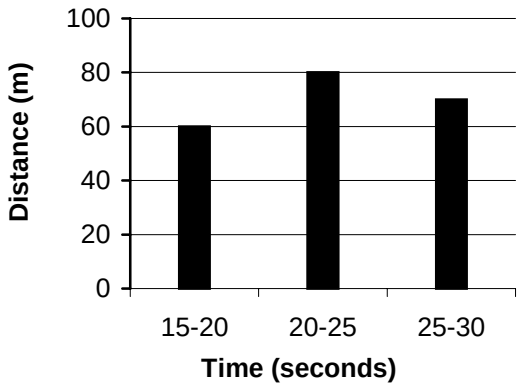
27. Who wins more than one match on Monday?
(a) D (b) B (c) A (d) Cannot be determined

28. Popat, an avid Chess buff, watched all the matches of the tournament except the ones that took place on Monday. How many times did he see either B or D winning a match?
(a) 10 (b) 9 (c) 8 (d) 7

29. On how many days during the tournament does at least one player win more than two matches?
(a) 0 (b) 1 (c) 2 (d) Cannot be determined

Directions for questions 30 to 32: Answer the following questions on the basis of the information given below.
A car starts moving along a straight line in the North direction at t = 0 seconds. The speed–time graph for the car is given below for the first 15 seconds in which it covers a total distance of 320 metres. The bar chart given below shows the distance covered by the car in the next 15 seconds. The speed–time curve for the car is a straight line in the time intervals 0–5 seconds, 5–10 seconds, 10–15 seconds, 15–20 seconds, 20–25 seconds and 25–30 seconds.



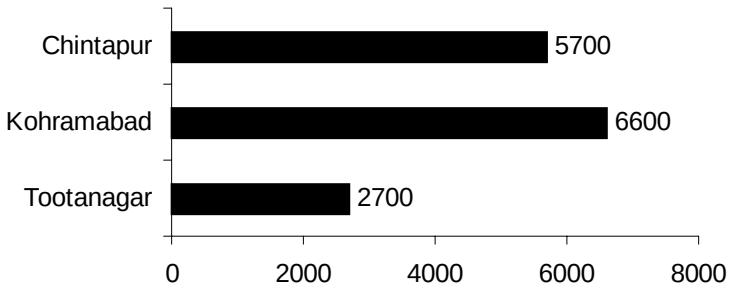


30. What is the speed (in m/s) of the car at t = 15 seconds?
(a) 12 (b) 16 (c) 20 (d) 30

31. What is the speed (in m/s) of the car at t = 30 seconds?
(a) 16 (b) 12 (c) 8 (d) 4

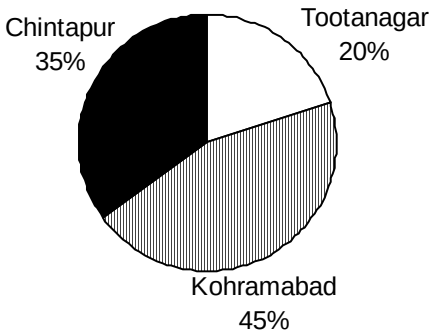
32. What is the average speed (in m/s) of the car between t = 8 seconds and t = 24 seconds?
(a) 20.7 (b) 17.7 (c) 31.2 (d) 22.2

Directions for questions 33 and 34: Answer the following questions on the basis of the information given below.
The graph given below shows the number of food packets distributed in three cities of Garibistan that have been hit by a natural calamity.



Number of Food Packets

Some food packets go waste in each city after not being consumed by the people. The pie chart given below shows the number of packets consumed in each city as a percentage of the total number of packets consumed in the three cities.



33. If the total number of packets wasted in the three cities is 20% of the total number of packets consumed in the three cities, then what is the number of packets wasted in Tootanagar as a percentage of the total number of packets wasted in the three cities?
(a) 6% (b) 8% (c) 10% (d) 12%

34. The number of packets wasted in Chintapur is thrice the number of packets consumed in Tootanagar. What is the ratio of the number of packets wasted in Kohramabad to the number of packets wasted in Tootanagar?
(a) 7:5 (b) 11:5 (c) 13:5 (d) 3:1

35. The question given below is followed by two statements, A and B. Mark the answer using the following instructions:
Mark (a) if the question can be answered by using one of the statements alone, but cannot be answered by using the other statement alone.
Mark (b) if the question can be answered by using either statement alone.
Mark (c) if the question cannot be answered even by using both the statements together.
Mark (d) if the question can be answered by using both the statements together, but cannot be answered by using either statement alone.

Q. If f(x) is linear function, then what is the value of f(5)?

A. $f(1) \geq f(2)$, $f(3) \geq f(2)$, $f(0) = 5$

B. $f(-1) = 3$, $f(1) \leq f(2)$, $f(2) \leq f(3)$

Directions for questions 36 to 38: Answer the following questions on the basis of the information given below.
Joker Smith assigns numbers 2, 3, 4, 5 and 6 to five boys A, B, C, D and E (not necessarily in the same order). B is assigned the number 2. Then Smith calls 7 distinct numbers (Call-1 to Call-7) one at a time. The sum of these 7 numbers is 100 and each of them is greater than 2. The sum of the numbers called in Call-1 and Call-2 is 30. He does not call the numbers 6 and 7. Exactly one of the called numbers is less than 10. On each Call, only the boys whose assigned number is a factor of the called number raise their hands. The table given below shows the process ('Yes' means that the boy raises his hand and 'No' means that he does not raise his hand).

		Call						
		1	**2**	**3**	**4**	**5**	**6**	**7**
Boy	**A**	No	No	Yes	No	No	Yes	No
	B	Yes	Yes	No	No	Yes	Yes	Yes
	C	No	Yes	No	No	Yes	No	No
	D	Yes	Yes	No	No	Yes	No	No
	E	Yes	Yes	No	No	Yes	No	No

36. What is the number called in Call-3?
(a) 25 (b) 5 (c) 35 (d) None of these

37. What is the number called in Call-4?
(a) 13 (b) 11 (c) 23 (d) 17

38. If Smith continues calling and calls the number 45 in Call-8, then who all would raise their hands?
(a) Only A (b) A and D (c) B and D (d) Cannot be determined

39. The question given below is followed by two statements, A and B. Mark the answer using the following instructions:
Mark (a) if the question can be answered by using one of the statements alone, but cannot be answered by using the other statement alone.
Mark (b) if the question can be answered by using either statement alone.
Mark (c) if the question cannot be answered even by using both the statements together.
Mark (d) if the question can be answered by using both the statements together, but cannot be answered by using either statement alone.

Q. N is a natural number. How many factors of N are perfect squares?
A. N has only 2 distinct prime factors.
B. N has 9 distinct composite factors, including itself.

40. Seven people A, B, C, D, E, F and G form three teams. Each person is a member of exactly one of the three teams and there are at least two members in each team.
Additional Information:
(1) No two people among E, F and G are in the same team.
(2) A and G are in the same team.
(3) B and C are in the same team.
How many people are there about whom it can be concluded that they are in a team having exactly 2 members?
(a) 2 (b) 3 (c) 4 (d) None of these

Directions for questions 41 to 44: The passage given below is followed by a set of questions. Choose the most appropriate answer to each question.

There is something irksome about a recent story in the *New York Times* that declared that "E-Books Make Readers Feel Less Isolated". Being a bookworm is uncool, the story alleges, but carrying around an e-reader makes reading seem chic.

"Strangers constantly ask about it," Michael Hughes, a communications associate at Johns Hopkins Bloomberg School of Public Health in Baltimore, said of his iPad, which he uses to read a mix of novels and nonfiction. "It's almost like having a new baby."

The problem here is not with the e-book. I'm in favour of any mode of literature delivery. If the only way I could consume Tolstoy was by having a trail of ants marching across my desk, each hoisting a piece of rice inscribed with the relevant word, that would be grand. Also, amazing. Also, impractical. Rather, I'm intrigued by the notion that e-readers make reading less antisocial. Doesn't reading necessitate not socialising? Indeed, isn't that part of the appeal?

I was always under the impression that books served a dual purpose: not only do they offer a world to enter, but also they offer an affordable means of escape from the world we're in. What a nice cloak a book can be on the subway or the train, or while sitting at a bar, enjoying the buzz of humanity while absorbed in something else. I'm reminded of Anne Tyler's "The Accidental Tourist", in which books are recommended as props for travellers who would rather avoid idle chatter with strangers.

Jonathan Franzen had something powerful to say about this in Lev Grossman's cover story about him in *Time*. Though few would hold Mr Franzen up as a beacon of joyful, social living (the man describes writing as "miserable work" and counts bird-watching as one of his few indulgences), he is convincing in his case for the importance of the sustained concentration demanded by reading.

"We are so distracted by and engulfed by the technologies we've created, and by the constant barrage of so-called information that comes our way, that more than ever to immerse yourself in an involving book seems socially useful... The place of stillness that you have to go to to write, but also to read seriously, is the point where you can actually make responsible decisions, where you can actually engage productively with an otherwise scary and unmanageable world."

Books require a certain quiet, a solitude that is all the more valuable for the way it can be achieved in public. The constant barrage of information Mr Franzen describes makes the insularity of a good book all the more valuable, like an antidote.

Still, few may be inspired to follow Mr Franzen's approach for keeping the siren song of the internet at bay. "What you have to do," he explained, "is you plug in an Ethernet cable with superglue, and then you saw off the little head of it."

41. According to the passage, which of the following cannot be inferred as a role/function of books?
    (a) Providing solitude even in the middle of a crowd.
    (b) Allowing an individual to escape the world.
    (c) Providing access to information and ideas.
    (d) Creating a space for introspection and engagement with the world.

42. Why does the author mention the instance of reading Tolstoy through a trail of ants?
(a) To highlight the fact that the mode of delivery of literature is not important.
(b) To prove that e-books can be equally effective as a mode of literature delivery.
(c) To demonstrate an impractical mode of literature delivery.
(d) To give an example of a mode of literature delivery that the author considers grand.

43. Which one of these best expresses the central theme of the passage?
(a) The impact of technological innovations on reading.
(b) New forms of reading books.
(c) The nature of the process of reading.
(d) The importance of reading.

44. The author calls a good book, an antidote. What is it an antidote to?
(a) Distracting technology
(b) Too much information
(c) The public
(d) Insularity

45. Four sentences are given below, labeled A, B, C and D. They need to be arranged in a logical order to form a coherent paragraph/passage. From the given options, choose the most appropriate option.

A. A Welsh boy named Billy Williams turns 13 and begins his wretched life as a coal miner.
B. King George V is crowned at Westminster Abbey.
C. A lot happens on the first page of Ken Follett's "Fall of Giants."
D. And Mr. Follett, who was once a Welsh boy himself but grew up to become his generation's most vaunted writer of colorless historical epics, kicks off a whopping new trilogy.

(a) ADCB (b) ABCD (c) CBAD (d) CDAB

46. Four sentences are given below, labeled A, B, C, D and E. They need to be arranged in a logical order to form a coherent paragraph/passage. From the given options, choose the most appropriate option.

A. We're still a closely divided nation; it's just that we're angrier about it.
B. One of the oddities of the current moment is that the country wants a radical change in government but not a radical change in policy.
C. On the other hand, they have not changed their fundamental views on the issues.
D. There has been some shift to the right over the past two years, but the policy landscape looks mostly the way it did over the last few decades.
E. On the one hand, voters are completely disgusted with Washington.

(a) BECDA (b) AECDB (c) DECBA (d) ECBAD

47. The word given below has been used in sentences in four different ways. Choose the option corresponding to the sentence in which the usage of the word is **incorrect or inappropriate.**

Close

(a) That comment hit close to home and made him uncomfortable.
(b) The police managed to close in to the suspect in a few days.
(c) The bank was forced to close down during the depression.
(d) The workers decided to close ranks and confront the manager.

Directions for questions 48 to 51: The passage given below is followed by a set of questions. Choose the most appropriate answer to each question.

My favourite news story — and this actually was a news story — was about the noise level in Toronto restaurants. It seems many Toronto restaurants are noisy. You can't go there and have a quiet conversation anymore. They play the background music too loud and many of the walls, ceilings and floors don't contain sound-absorbing material but instead reflect noise, whether music or their own conversations, back onto patrons. Apparently, it's getting to the point where — and here I must say I expected to hear about an imminent hearing-impairment crisis among Toronto servers or passers-by (second-hand noise, you know) or an upcoming investigation by the city's tireless health and safety commissioner, but, no, the main reported consequence of allegedly higher noise levels in Toronto restaurants is that some patrons (though we don't know who or how many) have decided to stay away from the noisier places.

Another example: the Great Canadian Anti-Salt Crusade. You read here (in April 2007) how a new Statistics Canada survey of Canadians' salt use — we use too much of it for our own good: is anyone surprised? — seemed destined to lead to a national campaign to start managing Canadians' intake of the deadly chemical. Now, three years later, a federal government interdepartmental task force on salt is indeed moving us toward greater governmental oversight of our eating habits.

The CBC's Ottawa radio outlet is helping out by signing up a four-person panel of just plain folk it found via Twitter and following their salt consumption over the next few weeks. I bet a tub of MSG the panel ends up being shocked by how much salt is in our prepared foods and concluding the government needs to regulate the industry much more strictly. At the very least, we can expect Government of Canada ads aimed at increasing our Salt-Awareness. (Quebec is a world leader in this sort of thing: We have had TV ads urging us to spend more time with our kids. If things are so far gone in a society that people have to get their parenting skills from TV ads, there's really no hope for it.)

Perhaps you heard Cross-Country Check-up's recent show on the camping crisis. It seems Canadians aren't camping as much as we used to. Why are the numbers down? And what can we do about it?

A current employee of Parks Canada assured listeners their government was on top of the situation, particularly with respect to worryingly low camping statistics among residents of the country's major urban centres. There is now a pilot program called Camping 101 that introduces new campers — us big-city types and new immigrants from countries with no camping heritage — to simple camping techniques such as how to safely start a campfire, toast a marshmallow, and apply bug repellant.

How thoughtful! From cradle to grave via campsite, your government and its attendant broadcast corporation are working tirelessly for you.

Worry, worry, worry. Since Woodward, Bernstein and Watergate journalism schools have taught students their job is not to be interesting, entertaining and possibly even amusing but rather, in their role as a sub-genre of social worker, to get to the bottom of crises and conspiracies.

If you're going to do that around the clock, you eventually get down to salt, noise and camping crises. Fortunately, there is a solution to endlessly escalating media worry about smaller and smaller problems. Like those restaurant patrons, we can simply stop listening.

48. Which of the following best describes the tone of the passage?
(a) Cautionary
(b) Sarcastic
(c) Derogatory
(d) Critical

49. Which one of these is not a characteristic of the various news stories discussed by the author?
(a) They arise out of the journalists' need to be entertaining.
(b) They deal with issues that the author considers trivial.
(c) They are a result of practices taught in journalism schools.
(d) They portray issues as crises.

50. Which of the following cannot be inferred from the passage?
(a) Woodward, Bernstein and Watergate are all names related to some conspiracy.
(b) The author supports the Canadian government's efforts to bring people back to campsites.
(c) The author recommends not paying too much attention to news stories such as those discussed in the passage.
(d) Canadians' intake of salt is high and it carries certain risks.

51. Which of the following would be a suitable title for the passage?
(a) What is worrying the news media?
(b) Alarming news stories
(c) Major issues in Canada today
(d) How to deal with trivial news stories?

Directions for questions 52 to 55: The passage given below is followed by a set of questions. Choose the most appropriate answer to each question.

In the 1970s and 1980s employment in quintessentially middle-skilled, middle-income occupations—salespeople, bank clerks, secretaries, machine operators and factory supervisors—grew faster than that in lower-skilled jobs. But around the early 1990s, something changed. Labour markets across the rich countries shifted from a world where people's job and wage prospects were directly related to their skill levels. Instead, with only a few exceptions, employment in middle-class jobs began to decline as a share of the total while the share of both low- and high-skilled jobs rose. The pattern was similar in countries with very different levels of unionisation, prevalence of collective bargaining and welfare systems. This "polarisation" of employment almost certainly had a common cause.

The development of information technology (IT) is the leading candidate. Computers do not directly compete with the abstract, analytical tasks that many high-skilled workers do, but aid their productivity by speeding up the more routine bits of their jobs. But they do directly affect the need for people like assembly-line workers or those doing certain clerical tasks, whose jobs can be reduced to a set of instructions which a machine can easily follow (and which can consequently be mechanised). At the other end of the employment spectrum, as the example of the towel-folding robot neatly demonstrates, low-skilled jobs may not require much education but they are very hard to mechanise.

Clear evidence in favour of this hypothesis comes from a study by David Autor of the Massachusetts Institute of Technology and David Dorn of the Centre for Monetary and Financial Studies in Madrid, who used data from America's Department of Labour on the tasks involved in different occupations. By classifying these tasks as routine or non-routine, the authors were able to grade occupations as more or less vulnerable to automation. This method identified the jobs of secretaries, bank tellers and payroll clerks as among those most dominated by routine tasks. (Bus drivers and firefighters are among those at the opposite end of the spectrum.) The economists found that employment polarisation in America between 1980 and 2005 was indeed most marked where jobs vulnerable to automation initially predominated.

Although similar patterns of job polarisation have also been documented for Britain and other European countries, there was until recently no clear cross-country evidence about the importance of IT in explaining them. Filling this gap is a new study by Guy Michaels, Ashwini Natraj and John Van Reenen of the London School of Economics (LSE), which uses industry-level data from 11 countries—nine European ones, plus Japan and America—for the years between 1980 and 2004. Across the board, the economists find that industries that adopted IT at faster rates (as measured by their IT spending, as well as their spending on research and development) also saw the fastest growth in demand for the most educated workers, and the sharpest declines in demand for people with intermediate levels of education.

The authors also find that once the role of technology is accounted for, openness to trade has no effect on the extent of polarisation. However, the adoption of IT might itself be a function of globalisation. In a paper written with Nicholas Bloom of Stanford University and Mirko Draca of the LSE, Mr Van Reenen looks at rates of IT adoption within Europe. They conclude that industries that faced more direct competition from Chinese imports after China entered the World Trade Organisation responded by innovating more in order to move up the value chain. Between 2000 and 2007, 15% of technology upgrading in Europe can be explained as a response to Chinese competition.

52. According to the passage how does IT create job polarization?
(a) Computers and other technology have speeded up certain tasks and rendered workers useless.
(b) Automation and mechanization have made low-skilled workers redundant.
(c) Increasingly sophisticated computer software has taken over abstract analytical tasks.
(d) Routine or clerical tasks have been mechanised and the workers performing them have consequently lost their jobs.

53. Which of the following correctly describes the role of IT and globalization as causes of job polarization?
(a) They are both interdependent and equally important factors that lead to job polarisation.
(b) IT is the predominant factor that affects job polarisation but IT adoption is linked to globalisation.
(c) They are both independent and important factors that can cause job polarization.
(d) While IT is an important factor, globalization does not have any impact on job polarization.

54. Among the following categories of workers, who would be most vulnerable to job losses according to the passage?
(a) A person who records data that has already been classified under predetermined headings.
(b) A person who works to clean houses or apartments.
(c) A consultant who advises companies on mergers and acquisitions.
(d) A software engineer who designs new programs.

55. According to the passage, which one of these is not a factor that affects job polarization?
(a) Level of unionisation
(b) Skill level of the worker
(c) Openness to trade
(d) Extent of IT systems adopted

56. Given below is a paragraph from which the last sentence has been deleted. From the given options, choose the one that completes the paragraph in the most appropriate way.

Descartes predicated the assumption that man consists of two separate identities, body and mind, linked during life but profoundly different in kind. He claimed that since the mind is a direct expression of god its nature couldn't be understood by science.

(a) Ideas on mind/body dualism originate at least as far back as Zarathushtra.
(b) Consequently, in order for the intellect to have access to any kind of knowledge with regard to any aspect of the universe, it must necessarily be a non-physical, immaterial entity itself.
(c) Aristotle revised the theory of forms so as to eliminate the idea of their independent existence from concrete, particular entities.
(d) In contrast, he taught that the body is a machine whose structure and operations fall within the province of human knowledge.

57. Given below is a paragraph from which the last sentence has been deleted. From the given options, choose the one that completes the paragraph in the most appropriate way.

Observant viewers of Sunday night's 82nd Academy Awards broadcast might have noticed something even more surprising than The Hurt Locker's near sweep of awards. For the first time since 1988, winners were back. Rather than the politically correct, nonjudgmental phrase that has been foisted on presenters for more than two decades — "And the Oscar goes to ..." — presenters this year introduced each winner with the blunt, old-fashioned but perfectly accurate phrase "And the winner is ..."

(a) Why the switch? No one at the Motion Picture Academy would give any explanation.
(b) Officials acknowledged that it was a decision made by producers Bill Mechanic and Adam Shankman, with an O.K. from the Academy.
(c) Whether the new format will stay is a decision for the producers who are in charge next year.
(d) The benefit of the earlier format was twofold: it plugged the award continuously, and it didn't make losers feel any worse than they already did.

58. Given below is a paragraph from which the last sentence has been deleted. From the given options, choose the one that completes the paragraph in the most appropriate way.

Terrorist attacks appall us because of the loss of life, but even more because the killing is deliberate. In London, traffic kills more people than bombs. But we are outraged by what the bombings express. The bombers want us – any of us – dead, or at least are prepared to kill us to make a political point.

(a) It is this that arouses the resentful backlash.
(b) In the climate created, anybody would have found retaliation imperative.
(c) Each killing is defended as retaliation for the last.
(d) Had it not been for terrorist attacks, the common man would never have learnt to care for the death of his fellow countrymen!

59. In the question, there are four sentences or parts of sentences that form a paragraph. Identify the sentence(s) or part(s) of sentence(s) that is/are **incorrect** in terms of grammar and usage. Then, choose the most appropriate option.

A. Last June I shared a cab with Grayson Perry, one of Britain's best-known artist.
B. He had just returned from the Basel art fair, where he had been struck by something.
C. "Everything is now happening all at once," he told me with a roll of the eyes.
D. At the fair, there is no longer a ruling style or taste, no common agreement on what is avant-garde and what is retrograde.
(a) A and C (b) Only A (c) B and C (d) A and D

60. In the question, there are four sentences or parts of sentences that form a paragraph. Identify the sentence(s) or part(s) of sentence(s) that is/are **incorrect** in terms of grammar and usage. Then, choose the most appropriate option.

A. In a second twin study, Dr Arvey asked to what extent leaders are born, and to what extent they are made.
B. Inborn leadership traits certainly do exist, but upbringing, he found, matters too.
C. The influence of genes on leadership potential is weakest in boys brought up in rich, supportive families and strongest in those raised up in harsher circumstances.
D. The quip that the battle of Waterloo was won on the playing fields of Eton thus seem to have some truth.
(a) A and B (b) B and D (c) C and D (d) Only D