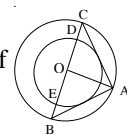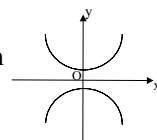**DIRECTIONS** *for Questions 1 to 9:* Select the correct alternative from the given choices.

1. In a cyclic quadrilateral ABCD, if AB = 2, BC = 3, CD = 4 and DA = 5, what is the ratio of the lengths of the diagonals?
    (1) 7 : 11   (2) 11 : 13   (3) 10 : 11   (4) 13 : 15

2. A function f(n) is defined as f(n) = (n – 1) (n) (n + 1). What is the remainder when f(n) is divided by 11 given that n = 1247?
    (1) 5   (2) 9   (3) 7   (4) 8

3. If a and b are positive integers such that 4a + 5b - 100 = 0, then find the total number of solutions.
    (1) 3   (2) 4   (3) 5   (4) 6

4. A number X when expressed in base 'n' is of form AB, where A and B are two non Zero digits. If the number X is such that $(AB)_n$ = 4 $(BA)_n$, then what is the decimal equivalent of $(AB)_n$ when n takes the minimum possible value?
    (1) 16   (2) 25   (3) 38   (4) 64

5. PQRS is a square, while diagonals PR and QS coincide with the x and y-axis respectively. Side PQ lies on the line x + y + 3 = 0. Side RS lies on which of the following lines?
    (1) x + y + 3 = 0   (2) x – y + 3 = 0   (3)   x – y – 3 = 0   (4)   None of these

6. The local park at Raghu's house is in the shape of a triangle. There are 4 posts along the longest side of the park and 2 and 3 posts along the other two sides respectively. If none of these posts is at any of the corners of the park, find the number of triangles that are possible with vertices at these posts.
    (1) 84   (2) 79   (3) 72   (4) None of these

7. If the two curves in the figure given alongside have the magnitudes of their respective minimum and maximum values as equal, which of the following pair of equations may represent the two curves?
    (1) $ax^2 = y$ and $y = bx^2$ and a > b.   (2) $y - px^2 - r = 0$ and $y + px^2 + r = 0$
    (3) $y = px^2 + qx$ and $y = -px^2 + qx$ (4) $y = px^2 + q$ and $y = q - px^2$

8. All Analysts are Engineers. One-third of all Engineers are Analysts. Half of all Technicians are Engineers. Only one Technician is an Analyst. Eight Technicians are Engineers. If the number of Engineers is 90, how many Engineers are neither Analysts nor Technicians?
    (1) 65   (2) 79   (3) 82   (4) 53

9. In the figure alongside, there are two concentric circles, centred at O, with diameters as ED and BC. OA is the bisector of ∠BAC while AB is tangent to the inner circle. If OD = 8 cm, what is the area of the triangle OAB?
    (1) $32\sqrt{2}$ sq.cm   (2) 64 sq.cm   (3) 32 sq.cm   (4) 128 sq.cm

DIRECTIONS *for questions 10 to 11:* These questions are based on the following operations.

Define the following operations for any two real numbers a and b
a # b = a² + ab + b²
a $ b = a² – b²
a * b = a² – ab + b²
All arithmetic operators like +, –, x, / have their usual meaning.

10. Which of the following relationships is true given a > b?
    I.   (a $ b) (a * b) = (a – b) (a³ + b³)
    II.   a² (a – b) + b² (b – 1) = (a + b) (a * b) – (a $ b)
    III. (a $ b) (a # b) = (a + b) (a³ – b³)
    (1) Only I and II (2) Only II and III (3)   Only I and III (4)   All three statements

11. If a = 2 and b = 1, what is the value of (a # b) + (a * b) + (a $ b)?
    (1) 15   (2) 7   (3) 8   (4) 13

DIRECTIONS *for Questions 12 to 15:* Select the correct alternative from the given choices.

12. A man buys 1500 kg of groundnut from a farmer. The seeds weigh 60% of the total groundnut weight. The seeds when crushed yield an oil content of 30% of their weight while the rest of the crushed material is treated once again and it yields 6% oil by weight. What is the amount of oil obtained in the second crushing of the groundnut seeds?
    (1) 37.8 kg   (2) 43.2 kg   (3) 46.8 kg   (4) None of these

13. In a rectangle ABCD, P and Q are points on AD and DC such that triangle BPQ is equilateral. Which of the following is true of the ratio r = AB : BC?
    (1) $\dfrac{\sqrt{3}}{2} \le r \le \dfrac{2}{\sqrt{3}}$ (2) $\dfrac{\sqrt{3}}{4} \le r \le \dfrac{4}{\sqrt{3}}$ (3) $\dfrac{\sqrt{3}}{2} \le r \le \sqrt{3}$ (4) $\dfrac{\sqrt{2}}{3} \le r \le \dfrac{\sqrt{3}}{2}$

14. All the words formed by using all the letters 'ALBEST' are arranged, with no repetetion, in the alphabetical order, as in a dictionary. What is the rank of the word 'STABLE' in this order?
    (1) 488   (2) 538   (3) 578   (4) 598

15. A, B, C, ….. till K are 11 points, spaced on the circumference of a circle in that order. What is the sum of all the corner angles of the 'star' formed by joining the points AEIBFJCGKDHA - in that order?
(1) 180°   (2) 270°   (3) 540°   (4) None of these

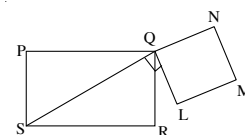**DIRECTIONS** *for questions 16 and 17:* These questions are based on the following data.

There are n taps numbered 1 to n, that can fill a tank, such that any tap (except the first) numbered i ($i \leq n$) working alone takes as much time to fill the empty tank as all the taps numbered less than i would take working together.

16. If the fourth tap takes 40 minutes to fill the tank when working alone then the eighth and the seventh tap would take how many minutes to fill the tank when working together
(1) 0.6 minutes   (2) 1.66 minutes (3) 3.0 minutes   (4) 3.33 minutes

17. If the 14th tap can fill the tank at the rate of 1427 litres per hour then the 15th tap will be able to fill the tank at a rate (in litres/hour) which is
(1) 66.66% more than 1427 litres/hour   (2)   100% more than 1427 litres/hour
(3) 166.66% more 1427 litres/hour   (4) 111.11% more than 1427 litres/hour

DIRECTIONS *for Questions 18 to 20:* Select the correct alternative from the given choices.

18. An operation is defined as cutting the maximum possible circle from a square and then cutting the maximum possible square from that circle. If the area of the square with which the operations started is 64 sq.units, what will be the area of the figure that will be formed after exactly 2.5 operations (half operation is defined as cutting the maximum possible circle from the square)?
(1) π (2) $\pi/2$ (3) 2π (4) 4π

19. Consider a rectangular grid of lines formed by m parallel lines intersecting n parallel lines that running perpendicular to them. How many different paths along the grid are possible from the top right corner to the bottom left corner? (where only downward and leftward motion is allowed)
(1) (m+n–2)!/(m–1)!(n–1)!   (2)   (m+n)!/m!n!
(3) (m+n)!/2   (4) m! n!

20. In the figure alongside, PQRS is a rectangle and QLMN is a square equal in area to the rectangle such that QL is perpendicular to SQ. If SL measures $\sqrt{84}$ cm and the lengths of PQ and PS are whole numbers (when measured in cm), what is the measure of SM (in cm)?(Figure not drawn to scale)
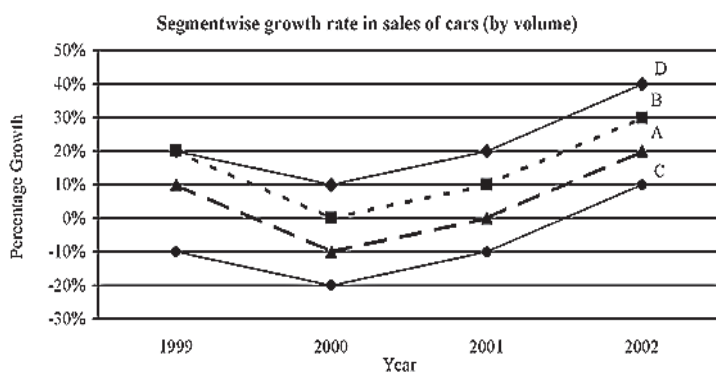
(1) $2\sqrt{25+4\sqrt{17}}$ (2) $\sqrt{88+\sqrt{17}}$ (3) $\sqrt{25+\sqrt{17}}$ (4) $2\sqrt{44+2\sqrt{17}}$

DIRECTIONS *for questions 21 and 22:* These questions are based on the following data.

N = 1234567891011121314…………9989991000.

21. Find the remainder, when the first thousand digits of N (from the left) is divided by 16.
(1) 7   (2) 11   (3) 13   (4) 15
22. Find the remainder when N is divided by 9.
(1) 8   (2) 7   (3) 1   (4) 0

DIRECTIONS *for Questions 23 to 26:* These questions are based on the graph and table given below.

Segmentwise growth rate in sales of cars (by volume)

Company	B-Segment		C-Segment		Flat Rate of interest (p.a.)
	2001	2002	2001	2002	
Maruti	9,560	8,600	11,000	9,700	10%
Hyundai	9,600	8,700	9,700	8,400	9%
Telco	9,500	8,600	13,000	11,000	11%
Fiat	9,200	8,100	14,000	12,000	8%

Note: EMI is the Equated Monthly Installment calculated to cover 30% of the Ex-showroom price of the car over 12 months.

Number of Cars sold in 2001

Segment \ Company	Maruti	Hyundai	Telco	Fiat
A	75,000	50,000	45,000	60,000
B	40,000	28,000	25,000	39,000
C	11,000	8,000	5,500	7,000
D	3,000	2,500	2,000	3,300

23. During the year 2001, which company made the most expensive car in B segment? (considering the ex-showroom price)
    (1) Maruti   (2) Hyundai   (3) Telco   (4) Fiat

24. What is the approximate sales turnover of Maruti cars in C segment for the year 2002? (at ex-showroom price)
    (1) Rs.344crores (2) Rs.413crores   (3)   Rs.181crores (4)   Cannot be determined

25. From 1999 to 2001, the sales (by volume) of which of the given segments have grown by the maximum percentage?
    (1) A   (2) B   (3) D   (4)   Cannot be determined

26. If in segment D, only the above four companies make cars, then what is the total number of cars sold in segment D in the year 2000?
    (1) 12,000   (2) 9,000   (3) 8,640   (4)   Cannot be determined

DIRECTIONS *for questions 27 to 30 :* These questions are based on the table given below.

FINAL LEAGUE STANDINGS AT THE END OF THE NFL

Team	Played	Won	Drawn	Lost	Points
Mohan Bagan		13	X		
Churchill			6	4	
Vasco		12	4		40
Salgaocar			9	3	
East Bengal		11	3		36
Mahindra			6	7	
ITI		8		Y	
HAL			4	10	
Tollygunge		6			23
JCT		5		11	
FC Kochin		4		12	
Punjab Police		3	3		12

It is further known that:
1. All teams have scored distinct number of points and are ranked 1st to 12th based on the descending order of the points scored.
2. NFL is a double round robin tournament in which each team plays two matches against every other team.
3. The total number of matches played in the tournament are 132 with out any match being abandoned or called off.
4. Teams get 3 points for a win, 1 for a draw and none for a loss.

27. The number of games won by the top five teams is what percentage of the number of games lost by the five lowest ranked teams?
    (1) 91%   (2) 93%   (3) 96%   (4) 100%

28. What percentage of the total games were won or lost?
    (1) 63%   (2) 67%   (3) 71%   (4) 76%

29. What is the maximum number of games that ITI and Mohan Bagan put together could have lost?
    (1) 6   (2) 9   (3) 13   (4)   Cannot be determined

30. What are the values of X and Y respectively?
    (1) 6, 2   (2) 7, 1   (3) 8, 3   (4)   Cannot be determined

DIRECTIONS *for questions 31 to 35:* The following tables give the production figures and overhead cost allocation of the main products and by-products of Kamadhenu Dairy. Two by-products - butter and ghee - are obtained with every main product.

31. What is the total overhead cost allocated to butter?
    (1) Rs.1,363.00   (2) Rs.2,997.60 (3) Rs.1,798.50   (4) Rs.1,978.42

PRODUCTION DETAILS

Main Products	Qty. of production of main product (in kg)	Qty. of Production of by-product (in kg)	
		Butter	Ghee
F A Milk	9874	62	48
S.M.P	813	992	756
W.M.P	1179	606	448
Baby Food	1307	696	529
Cheese	1094	560	426
Standardised Milk	8675	681	519

OVERHEAD ALLOCATION

Product	Allocated overhead cost per kg of product (Rs.)
F A Milk	0.01
S.M.P	0.25
W.M.P	0.25
Baby Food	0.49
Cheese	5.76
Standardised Milk	0.01
Butter	0.50
Ghee	0.66

32. The ratio of the total overhead cost allocated to S.M.P. and its by-products to the total overhead cost allocated to W.M.P. and its by-products is approximately
(1) 23 : 20   (2) 5 : 4   (3) 21 : 17   (4) 4 : 3

33. What is the total overhead cost of Kamadhenu Dairy (approximately)?
(1) Rs.11,200   (2) Rs.12,700   (3) Rs.9,500   (4) Rs.14,300

34. There is a Rs 11,000 increase in the total overhead cost of the Dairy and it was decided to allocate this additional cost over the two main products Baby food and Cheese - in the ratio of their production. What is the approximate percentage increase in the total overhead cost allocated to Baby food?
(1) 41.6%   (2) 58.4%   (3) 76.4%   (4) 92.8%

35. In the above question what is the new allocated overhead cost per kg of Cheese?
(1) Rs.5.98   (2) Rs.6.22   (3) Rs.6.09   (4) Rs.6.37

DIRECTIONS *for Questions 36 to 38:* These questions are based on the following tables.

Latitude	Percentage of world population
60°N - 90°N	5%
30°N - 60°N	28%
0° - 30°N	32%
0° - 30°S	24%
30°S - 60°S	10%
60°S - 90°S	1%

Continent	Population (millions)	Density of population	Number of countries
A	3200	97	80
B	700	35	48
C	500	100	51
D	400	12	13
E	400	20	17
F	300	4	23

Note: The density of population is defined as the ratio of the population (in millions) to area (in sq. km)

36. Which is the largest continent by area?
(1) A   (2) B   (3) D   (4) F

37. If the population of the world increases by 10% in 2002, over that in 1998, what will be the density of world population in 2002? Assume that there are only six continents in the world and that the area of these continents remain constant throughout.
(1) 41   (2) 33   (3) 59   (4) Cannot be determined

38. Which of the following statements is not true?
(1) The population in the northern hemisphere is greater than that in the southern hemisphere.
(2) The average number of people per country is the highest for continent A.
(3) The population is decreasing from equator (0° latitude) towards either North latitude or towards south latitude.
(4) If the continents are arranged in alphabetical order, then they are in the decreasing order of their populations.

DIRECTIONS *for questions 39 to 41*: Each question is followed by two statements, I and II. Answer each question using the following instructions.

Choose 1 if the question can be answered by one of the statements alone but not by the other.
Choose 2 if the question can be answered using either statement alone.
Choose 3 if the question can be answered using both the statements together, but cannot be answered by using either statement alone.
Choose 4 if the question cannot be answered even by using both the statements together.

39. In a round–robin tournament it is known that unless A defeats B by 60 points, C will not defeat A by 20 points. Did A defeat B?
I. C defeats A by 20 points.   II. B defeats A by 40 points.

40 A gives a portion of the money he had to B, B gave 70% of what he got to C. If initially B and C did not have any money with them, how much money did C get?
I. Now the total amount with B and C put together is Rs.500.
II. A initially had Rs.2,000.

41. What is the area of the rectangle ABCD?
I. AB = 10 cms; CD = 10 cms   II. The diagonals AC and BD are $10\sqrt{2}$ cm each.

DIRECTIONS *for Questions 42 to 44:* These questions are based on the data given below.

Kris, an undercover agent, wanted to create a password for his mail account. The password is to be made from 5 letters – P, Q, R, S and T. The following are the conditions that he considered while making the password:

(a) None of the letters can be repeated, except R.
(b) If Q is used, T is also used.
(c) If R is in a password, it must be repeated.
(d) P cannot be the first or the last letter of the password.
(e) If T is used, then Q is also used.

42. Which of the following cannot be used on a 2-letter password?
(1) R   (2) T   (3) Q   (4) S

43. Which among the following can be a single-letter password?
    (1) P   (2) Q   (3) S   (4) T

44. If R and S are the first and the last letter respectively of a five letter password, then which of the following cannot be included in the password?
    (1) P   (2) Q   (3) T   (4)   Cannot be determined

DIRECTIONS *for questions 45 and 46:* These questions are based on the following data.

Sempox, Basalix, Micklix, Chocx and Prepix are residents of the planet Chebudix. One fine day they undertake a galactic holiday and beam themselves onto Earth. However, on Earth they find that because of differing gravity their weight differs as compared to that on Chebudix.
It is known that one Chekix (i.e., one kilogram on Chebudix) is equivalent is 1/11th of the kilogram on Earth.
The five galactic visitors and their weights are as follows.
(i)   Chocx weighs 50.6 Chekix. He is heavier than everybody except Micklix, who weighs 13.2 Chekix more.
(ii) Sempox weighs 5.5 Chekix less than Chocx and 2.2 Chekix more than Basalix.
(iii) Prepix weighs 1.4 kgs on Earth.

45. Which of the following is the correct weight of Basalix?
    (1) 42.9 Chekix   (2) 45.1 Chekix (3) 3.9 kgs   (4) Both (1) and (3)

46. What is the combined weight of all the five visitors from planet 'Chebudix'?
    (1) 207.8 Chekix (2) 217.6 Chekix   (3)   19.8 kgs   (4)   Both (2) and (3)

DIRECTIONS *for questions 47 and 48:* Select the correct alternative from the given choices.

47. Each of three players A, B and C are selected to play for their college in exactly one game among Badminton and Chess. Atleast one person is selected for each game.
Further it is known that:
If A is selected for Badminton, then B is not selected for the game for which C is selected.
If B is selected for Badminton, then A not selected for the game for which C is selected.
If C is selected for Chess, then A selected for the game for which B is selected.
Which of the following cannot be true of the final selection?
    (1) A is selected for Chess and B is selected for Badminton.
    (2) A and B are selected for Badminton and C is selected for Chess.
    (3) Not more than one player is selected for Chess.
    (4) More than one of the above

48. Mr. Baha Man had locked his pet dogs in his room and instructed his three sons – Woof, Arf and Grrr – to keep a watch over them while he was away. When he came back, he found that there were no dogs in the room. When he came to know that exactly one of his sons had let the dogs out, he angrily shouted at them, "WHO LET THE DOGS OUT?" Frightened, each son gave two replies to the question, as given below:
Woof : Arf did. Grrr didn't.
Arf   : I didn't. Woof did.
Grrr   : Woof didn't. Arf didn't.
If it is known that of the statements given by each son at least one was true, then which son let the dogs out?
    (1) Woof   (2) Arf   (3) Grrr   (4) Cannot be determined

DIRECTIONS *for questions 49 to 58:* Read the passages given below and answer the questions that follow.

Passage – 1

The term "financial sector reforms" is a euphemism for "financial liberalisation" which the Bretton Woods institutions like IMF and World Bank have been advocating for Third World economies, and which a host of them as well as former socialist countries like Russia have actually adopted. The essence of financial liberalisation consists of three sets of measures : first, to open up a country to the free flow of international finance; secondly, to remove controls and restrictions on the functioning of domestic banks and other financial institutions so that they get properly integrated as participants in the world financial markets; and thirdly, to provide autonomy from the government to the central bank so that its supervisory and regulatory role *vis-a-vis* the banking sector is dissociated from the political process of the country, and hence from any accountability to the people. To be sure, not all these measures are immediately contemplated or demanded, but they represent the ultimate goal of financial liberalisation, which may be ushered in by stages.

The Bretton Woods institutions contrast financial liberalisation with what they call "financial repression", that is, the regime which was erected in India in the post-Independence period. What this regime visualised was a subordination of the financial system to the perceived needs of economic development. To this end, interest rates were kept low; banks and financial institutions were required to hold government securities up to a certain per cent of their total liabilities (the so-called Statutory Liquidity Ratio), permitting the easy sale and cheap servicing of public debt; credit was directed to priority sectors, including especially agriculture; the Reserve Bank was retained as a part of the government and hence accountable to Parliament for its actions; banks were nationalised to ensure that they did not shirk their social obligations and established branches all over the country; strict controls were exercised on capital flows into or out of the country; and of course a fixed exchange rate with no current or capital account convertibility was maintained. There were no doubt problems with this regime, arising from the fact that the economy was experiencing capitalist development, and hence the credit needs of vast masses of small producers and even small capitalists could not be met cheaply from institutional sources. But within this overall constraint, the logic of the regime was to make the financial sector serve the needs of development, which, it was believed, necessitated its three main features, namely, its being anchored to the national economy and detached from world financial flows; its being obliged to give precedence to production over speculation for which it also had to observe controls on the price and direction of credit (not that speculation did not thrive but the objective of the regime was to control it); and its being accountable to the people via the government.

The purpose of financial liberalisation is to reverse all these features; to detach the financial sector from its anchorage in the domestic economy and to make it a part of the international financial sector; to make it operate according to the dictates of the market which means

the end of cheap interest rates, of the regime of directed credit and of the distinction between productive and speculative credit needs; and to remove it from the ambit of accountability to the people. In short, the purpose of financial sector reforms is to make the financial sector an integral part of "globalised finance."

This, it is argued, would serve the development needs of the country better than the previous regime did, by attracting large amounts of foreign capital into the economy. This argument, however, fails to draw a crucial distinction, namely between capital inflow that adds to the productive capacity of the economy, and capital inflow that does not. Direct foreign investment (DFI), and that too not all of it but only a part of it, genuinely adds to the productive capacity of the economy. This is the DFI which locates production on our soil for meeting the global market or which produces goods essential for us but for which we lack the technology. But DFI which produces goods for the home market that only supplant what is being already produced does not add to our productive capacity: on the contrary it causes an implicit form of deindustrialization. And all capital flows in the form of deposits or portfolio investments constitute short-term flows that are essentially speculative in nature which do not add directly to productive capacity.

Financial liberalisation is undertaken in the name of attracting the first kind of capital inflow, but for a variety of reasons, it scarcely succeeds in doing so. First of all, the total amount of all DFI inflows to the Third World (other than China which is in a separate category) is limited; secondly, even this limited amount is declining in the wake of the East Asian crisis; thirdly, productive, that is, nondeindustralising capital inflows, are even more meagre; and finally, all "liberalised" economies are chasing these meagre inflows. Under these circumstances, financial liberalisation scarcely gives a boost to productive capital inflows. What it does, however, is to expose the economy to the vortex of speculative capital movements, that is, to the flows of short-term finance in search of quick profits.

49. Which of the following is not a characteristic of controlled economy?
    (1) Strict control on capital inflows into the country.
    (2) Credit to priority sectors like agriculture.
    (3) Subservience of financial sector to development needs.
    (4) None of the above.

50. As per the passage, the financial sectoral reforms
    (1) are implemented by third world countries of their own volition.
    (2) are advocated by IMF and World Bank to the third world countries.
    (3) are restricted only to third world countries.
    (4) are implemented to control inflation.

51. From the passage, it can be inferred that the author is
    (1) an ardent advocate of financial liberalization.
    (2) not totally in favour of financial liberalization.
    (3) discussing the pros and cons of financial liberalisation.
    (4) noncommittal on the issue of financial reforms.

52. As per the author of the passage, financial liberalisation
    (1) is advisable in the present circumstances.
    (2) is a sine qua non for economic development.
    (3) can lead to a situation which favours generation of quick money.
    (4) can put the country in doldrums.

53. The word 'euphemism' as per the passage means,
    (1) a misnomer.   (2) a misfit.
    (3) a perfect description.   (4) a milder substitute for a stronger word.

Passage – 2

On January 17, the President gave his assent to the amendment to the ineffective Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) (PNDT) Act, 1994. Now called the Pre-Conception and Pre-Natal Diagnostic Techniques (Prohibition of Sex Selection) Act, the amendment leaves no room for doubt about its intentions.

The long-awaited amendment – geared to strengthen the regulatory mechanisms and implementation of the Act, and also broaden its scope – has been greeted with applause by women's groups and health activists, and hostility by the medical profession, which tried its best to scuttle the overhaul of the law. Bringing into the ambit of the Act emerging techniques for pre-conception sex-selection, such as sperm separation and pre-implantation genetic diagnosis, increasing the fine and additional provisions for the suspension and cancellation of the registration of violators, the law rightly targets the medical profession: the so-called 'supply' side of the practice of sex-selection. Manufacturers of ultrasound equipment are now required to sell their products only to registered clinics, and all ultrasonographers now have to maintain records of all tests conducted by them.

The plummeting child sex ratio evident in Census 2001 galvanised policymakers into action. Besides amending the law, which had proved ineffective in checking sex-determination followed by the abortion of female foetuses, campaigns against sex-determination were launched at a frenetic pace, particularly in the states of Punjab, Haryana and Delhi – where the child sex ratio was notably low. Undoubtedly, there is a demand for the service – a symptom of a social malaise where discrimination against women has been aided by medical technology. There is no arguing that this form of violence against women has its roots in basic gender inequalities.

The medical profession too held public functions against sex-determination, and much media attention was devoted to the public-spirited doctors vowing to fight this practice. Yet, these medical professionals are few and far between. Awareness-raising and oaths are unlikely to make a dent in a profession that has shaped itself into an industry, particularly over the last decade, when privatisation of health services has become the norm. It was only in 2002, eight years after the PNDT Act was passed, that the Medical Council of India (MCI) – authorised under Section 23 (2) of the Act to take action against any erring medical practitioner – recognised undertaking sex-determination tests 'with the intent to terminate the life of a female foetus' as professional misconduct. According to the Indian Medical Council (Professional Conduct, Etiquette and Ethics) Regulations, 2002, published in the Gazette of India on April 6, 2002, sex-determination without 'proper indication' can lead to de-registration and criminal prosecution.

When any act moves from being ethically questionable to being legally prohibited, regulatory mechanisms play an important role. Cynics may deny the utility of a law simply because it is possible to flout it, and because the regulation brings with it scope for

corruption. Yet, the demand for legislation, and the articulation of what constitutes a wrong-doing/crime, has been the hallmark of many campaigns of the women's movement. While the 'demand side' of sex-determination can be (and must be) tackled through social initiatives and not enforcement, this is a more long-term process, one where change is not so tangible.

Until material conditions change, the status of women is unlikely to improve, in spite of consciousness-raising exercises. Dr J K Banthia, registrar general and census commissioner of India, while drawing attention to the 'red spots' on the census map – districts with a child sex ratio below 865 – points out the districts with a comparatively better ratio, in the north-east and Kerala. It is no coincidence that these are regions where women have greater access to productive resources, land rights and control over property. When fundamental inequalities are not addressed, the government rhetoric of 'empowerment' sounds hollow.

The Act, even with amendments, fails to recognise current medical practice for what it is – a business. Contrary to the demands put forth by several concerned social organisations/activist groups since the early-1990s, that all pre-natal diagnostic tests be restricted to government hospitals, the 'regulation' of these techniques in fact grants a legitimacy to private sector expansion, and the consequent misuse of technology by it.

Unless the proliferation of medical technology and its indiscriminate use in obstetrics and gynaecology is examined, it will be virtually impossible to arrest sex-selection. The hue and cry by doctors over the amendments, and their claim that the Act will adversely affect their ability to practice, had at its central point the alleged indispensability of ultrasound as a diagnostic tool in obstetrics. These claims need further substantiation, says Dr Puneet Bedi, foetal medicine specialist at Apollo Hospital, Delhi. Basing his statement on the Cochrane database, a compilation of the latest in medical research, Bedi says that there is no case for routine ultrasound in obstetrics. "There is no evidence that routine ultrasound has improved either maternal or foetal outcomes. Moreover, it is not always accurate, since it is a completely observer-based diagnosis."

More worrisome is the fact that the risks are not fully known, and some studies show a correlation between repeated ultrasounds and miscarriage, low birth-weight babies and pre-term labour. Yet, as Bedi points out, no other procedure in the history of obstetrics has been accepted on such a large scale with so little evidence of effectiveness or safety. An estimated $ 1 billion is spent every year in the US on routine ultrasounds, and it is a Rs.5 billion industry in India. Is it any wonder then that 'diagnostic clinics' are sprouting out of every garage and tin shed? Undoubtedly, the easy availability of technology is making it easier to translate son preference into the elimination of females. An estimated 20 million females in this country have been eliminated following sex-determination tests. But not a single doctor has been convicted. It is the providers of this technology who have to be held ethically as well as legally accountable immediately, before another 20 million females go missing.

54. According to the passage, states with high sex ratio are where
    (1) a woman is not considered a liability.
    (2) women have rights and privileges on a par with men.
    (3) the government has taken steps to empower women.
    (4) women are economically independent.

55. Which of the following can possibly assist better in tackling the issue of sex ratio from the perspective of the demand side?
    (1) Street plays, skits, programmes that help in bringing a change in societal attitude.
    (2) Strict laws and regulations that are capable of convicting doctors too.
    (3) Recording of transactions and the names of the users of diagnostic equipment.
    (4) Involvement of women's group and health activists in spreading the awareness regarding the stigma attached to the prenatal diagnostic tests.

56. The purpose of the amendment to the PNDT Act 1994 is
    (A) to limit the extent of manufacture of ultra sound equipment.
    (B) to make the supply side more accountable.
    (C) to satisfy vociferous women's groups.
    (D) to bring new techniques that might be misused into its fold.
    (1) A and B   (2) C and D   (3) A and C   (4) B and D

57. Dr. Puneet Bedi's statement leads us to infer that
    (1) some prenatal diagnostic tests lead to miscarriage.
    (2) ultra sound tests are essential tools for obstetricians.
    (3) in most cases, commercial interest may gain importance while using certain medical techniques and technologies which have disputable efficacy levels.
    (4) excessive use of ultra sound tests could be fatal to foetus.

58. The decline in the number of girls in the child sex ratio reveals the fact that
    (1) more female foetuses get rejected naturally.
    (2) the law cannot regulate people's behaviour.
    (3) society's prejudice against women is taking a more violent form.
    (4) the demand for prenatal diagnostic techniques is increasing.

DIRECTIONS *for questions59 to 63:* In each of the questions below, four different ways of writing a sentence are indicated. Chose the best way of writing the sentence.

59. A   There is no dearth of cures for the dreaded hangover but the search for a genuine cure is all too elusive as nature seems determined to make the drinker pay for his excesses, if even that doesn't prevent him from indulging himself again.
    B   There is no dearth of alleged cures for the dreaded hangover but the search for a genuine cure is all too elusive as nature seems determined to make the drinker pay for his excesses, even if that doesn't prevent him from indulging himself again.
    C   There is no dearth of alleged cures for the dreaded hangover but the search for a genuine cure is all too elusive as nature seems determined to make the drinker pay for his excess, if even that doesn't prevent him from indulging himself again.
    D   There is no dearth of cure for the dreaded hangover but the search for a genuine cure is all too elusive as nature seems determined to make the drinker pay for his excess, even if that doesn't prevent him from indulging himself again.
    (1) A   (2) B   (3) C   (4) D

60. A   Karnataka set the ball or clouds rolling by cloud-seeding operations over the catchment areas of its reservoirs which not only are crucial for ensuring adequate irrigation for crops but for pre-empting power-cuts in the urban areas where resides the Great Software Revolution.

B   Karnataka set the ball or clouds rolling by cloud-seeding operations over the catchment areas of its reservoir which are crucial not only for ensuring adequate irrigation for the crops but for pre-empting power cuts in urban areas where resides the Great Software Revolution. C Karnataka set the ball or clouds rolling by cloud-seeding operations over the catchment areas of its reservoirs which are crucial not only for ensuring adequate irrigation for the crops but also for pre-empting power cuts in the urban areas where resides the Great Software Revolution.

D   Karnataka set the ball or clouds rolling by cloud-seeding operations over the catchment areas of its reservoir which not only are crucial for ensuring adequate irrigation for the crops but also for pre-empting power cuts in urban areas where resides the Great Software Revolution.

(1) A   (2) B   (3) C   (4) D

61. A   Mudaala is one of more than 13 million people across southern Africa who are the victims not just of bad weather but of a savage confluence of erratic climate, bad governance and, worse economic policies, war and, most brutally, the aids pandemic.

B   Mudaala is one of more than 13 million people across southern Africa who is the victim of not just bad weather but of a savage confluence of erratic climate, bad governance and worse economic policies, war and, most brutally, the aids pandemic.

C   Mudaala is one of more than 13 million people across southern Africa who are the victims of not just bad weather but of a savage association of erratic climate, bad governance and worse economic policies, war and, most brutally, he aids pandemic.

D   Mudaala is one of more than 13 million people across southern Africa who is the victim not just of bad weather but of a savage association of erratic climate, bad governance and worse economic policies, war and, most brutally, the aids pandemic.

(1) A   (2) B   (3) C   (4) D

62. A   Most of the government schemes which are to benefit the rural poor are either linked officially or unofficially to the small family norm, so large families who are desperately in need of help do not always benefit.

B   Most of the government schemes which are to benefit the rural poor are linked either officially or unofficially to the small family norm, so large families, who are desperately needing help do not always benefit.

C   Most of the government schemes which are to benefit the rural poor are either linked officially or unofficially to the small family norm, so large families which are desperately in need of help do not always benefit.

D   Most of the government schemes which are to benefit the rural poor are linked either officially or unofficially to the small family norm, so large families which are desperately in need of help do not always benefit.

(1) A   (2) B   (3) C   (4) D

63. A.   Homeopathy is a special method of drug therapy of curing natural diseases by administering drugs which are experimentally proved to possess similar artificial symptoms on healthy human beings.

B.   Homeopathy is a specialized method of therapy of curing natural disease by administering drugs which have been experimentally proved to possess the power of producing similar artificial symptoms over healthy human beings.

C.   Homeopathy is a specialized method of drug therapy of curing natural diseases by administering drugs which have been experimentally proved to possess the power of producing similar artificial symptoms on healthy human beings.

D.   Homeopathy is the specialised method of drug therapy of curing natural diseases by administering drugs which have been experimentally proven to process the power of producing similar artificial symptoms upon healthy human beings.

(1) A   (2) B   (3) C   (4) D

DIRECTIONS *for questions 64 to 69:* Fill the gaps in the passages below with the most appropriate word from the options given for each gap. The right words are the ones used by the author. Be guided by the author's overall style and meaning when you choose the answers.

It is sometimes argued that human development, with its emphasis on the social sector is the **(64)** of economic growth. The whole point is that the two are interlinked and can be part of a **(65)** circle in which an improvement of education and health facilitates faster economic growth and vice-versa. A neglect of human development or economic growth can push countries into a **(66)** circle in which inadequate attention to human development pulls down economic growth and the other way round as well.

64. (1) antithesis   (2) antipathy   (3) antidote   (4) antecedent

65. (1) virtual   (2) virtuous   (3) vindictive   (4) visible

66. (1) real   (2) vicious   (3) venomous   (4) violent

It is a known fact that irrespective of any industrial or agricultural legislation or even compulsory education that may have been responsible for the **(67)** of child labour, it exists in practically every society, and will continue to do so as long as it is not intrinsically **(68)** to the prevailing order. Hence, the focus should be on production so that bonded labour, a **(69)** of the feudal form of exploitation is done away with.

67. (1) eradication   (2) intimidation (3) abolition   (4) digression

68. (1) equitable   (2) iniquitous   (3) inimical   (4) innate

69. (1) reminiscence (2) remnant   (3) repercussions (4) remittance

DIRECTIONS *for questions 70 to 73:* Select the correct alternative from the given choices.

70. Official sources put the number of child labourers in the country at 17 million of which two million are engaged in hazardous occupations. On the other hand, while some independent sources estimate the number to be closer to 44 million, there are others who have fixed the figure at 100 million.

Which of the following could be the fundamental reason for the conflicting reports on the size of child labour?

(1) Accuracy of official sources.

(2) Inaccuracy of independent sources.

(3) Lack of agreement between official figures and figures of independent sources in all areas.

(4) Prevailing confusion on the question of what constitutes child labour.

71. Economic policy in general and economic reform in particular requires understanding that shaping economic policy is less about crisis management and more fundamentally about conflict management.
Which of the following would be an example of economic policy based on canflict management?
(1) An economic policy which balances conflicting demands without caving in to every powerful interest group.
(2) An economic policy which reflects continuing compromises in economic decision made with populist and sectional interest demands.
(3) An economic policy which emphasises on the welfare of the poor and downtrodden.
(4) An economic policy framed to give a boost to industrial growth in the country.

72. My hypothesis is that institutions are a creative act and the creative act is bound with the person. The institutions that Gandhi or Tagore or Aurobindo created – they were a natural emanation of their creative endeavour, they were like works of art. But these people did not see how these institutions would survive, how they perpetuate and maintain themselves.
Which of the following could be an apt summary of the above passage?
(1) Institution-builders are creative but as a rule do not have vision.
(2) Gandhiji and people like him lack the foresight to perpetuate their institutions.
(3) Some of the great institution-builders from whose creativity institutions emerged did not think of ways of perpetuating them.
(4) Creativity and myopia exist hand in hand.

73. Clearly nothing is sacrosanct. Nothing escapes the cannibalising instincts of the new image managers. Dance festivals at Khajuraho, fashion shows at the Qutub, cigarette hoardings at sports events – the past, cultural traditions, values and dreams – are all selectively deployed, packaged and spewn out.
It can be inferred from the above passage that
(1) the notions of sacredness makes things unsuitable for commercial exploitation.
(2) the present genre of image managers are conscious of using national monuments for commercial exploitation.
(3) the present breed of image managers are immune to notions of sanctity and are focused on image enhancement at any cost.
(4) the present breed of image managers are an uncivilized lot.

DIRECTIONS *for questions 74 to 78:* Select the correct option from those given to complete the given sentences. Please note that more than one choice may fit in but select the choice that is logical in the context of the sentence.

74. As writers' badges go, Paul Zacharia is _____.
(1) the ordinary writer in extraordinary situations in Malayalam literature
(2) referred to in the Borges of Malayalam literature
(3) referred as the Borges of Malayalam literature
(4) referred to as the Borges of Malayalam literature

75. There is usually _____ all over the world.
(1) people from all walks of life
(2) a standard means of written English
(3) a standard form of written English
(4) English spoken as a native language

76. We knew there was a crowd, but _____ hallway.
(1) there was a multitude on the first floor
(2) we had not bargained about the multitudes at the first floor
(3) we had not bargained for the multitudes on the first floor
(4) we had not bargained for the multitudes in the first floor

77. There are times when not all of us have umbrellas to walk under; those are the times when we need people who are willing to lend _____.
(1) their umbrellas for a wet stranger on a rainy day
(2) his umbrella to a wet stranger on a rainy day
(3) their umbrellas to a wet stranger on a rainy day
(4) their umbrellas to a wet stranger in a rainy day

78. You have not lived a perfect day, even though you have earned your money, _____ who will never be able to repay you.
(1) though you have done something for someone
(2) unless you have done something for someone
(3) whenever and wherever possible doing something for someone
(4) unless you have done nothing for someone

DIRECTIONS *for questions 79 to 83:* A number of sentences are given below which, when properly sequenced, form a coherent paragraph. Choose the most logical order of sentences from among the choices given to construct a coherent paragraph.

79. A. What they forget and do not understand is that the problems drowned in drugs come back with a vengeance to torment them once the effect wears off.
B. Drug addiction implies physical dependence upon a drug including the development of tolerance and withdrawal.
C. Many drugs give the user a kick and tend to eradicate the frustrations and adversities that life throws in his way.
D. An addict who develops tolerance requires more and more of the drug to transport him to the world of fantasy.
E. The addict's endeavour is escapism and it is doomed to catastrophic failure even before it begins.
F. If the addict is not allowed to take the drug, he suffers from painful and uncontrollable convulsions, vomiting, depression and various other maladies.
(1) ABCDEF   (2) BDFECA   (3) BDFCAE   (4) DEFCAB

80. A. It has become not a subject of curiosity and an object of study but an instrument of the scientist to be taken for granted by him, to be used by him, to be taught to him as a mode of action.
B. When quantum theory was first taught in the universities and institutes, it was taught by those who had participated or had been engaged as spectators in its discovery.
C. It is taught not as history, not as a great adventure in human understanding, but as a piece of knowledge, as a set of techniques to be used by the student in understanding and exploring new phenomena in the advance of science.
D. Some of the excitement and wonder of the discoverer was in their teaching; now after two or three decades it is taught not by the creators but by those who have learned from others who have learned from those creators
(1) ABCD   (2) BADC   (3) BDCA   (4) DACB

81. A. Almost all U.S artists have developed on their own.
   B. Before taking up the subject of primitivism in United States painting, we must first consider whether there actually is such a thing as United States painting
   C. The mere fact that there are painters in the U.S. does not necessarily imply the existence of a distinctive U.S art form
   D. Perhaps the U.S art form merely belongs to the sum total of Western or, more precisely European painting.
   E. We believe, however, that U.S painting has a native and singular flavour that sets it apart.
   (1) ABCDE   (2) BADCE   (3) EDABC   (4) BDCEA

82. A. On the contrary, the magical satisfaction the latter provide (which makes them escape literature, not works of art) is the illusion of being disassociated from the murderer.
   B. The magic formula is an innocence which is discovered to contain guilt; then a suspicion of being the guilty one; and finally a real innocence from which the guilt has been expelled, a cure effected by the miraculous intervention of a genius from outside who removes guilt by giving knowledge of guilt.
   C. This may be true for the readers of thrillers but it is quite false for the reader of detective stories.
   D. It is sometimes said that detective stories are read by respectable law abiding citizens in order to gratify in fantasy the violent or murderous wishes they do not, or are ashamed to, translate into action.
   (1) ABCD   (2) BADC   (3) DCAB   (4) CADB

83. A. There are all as lambs compared with the Dytiscus larva,
   B. Considering their relative size, the voracity and cunning with which these animals destroy their prey eclipse the methods of even such notorious predators as tigers, lions, wolves or killer whales
   C. There are some terrible predators in the pond world, and in our aquarium, we may witness all the cruelties of an embittered struggle for existence enacted before our very eyes.
   D. If you have introduced to your aquarium a mixed catch, you will soon see an example of such conflicts, for amongst the new arrivals there will probably be a larva of the water beetle Dytiscus.
   (1) ABCD   (2) CDBA   (3) BCDA   (4) DABC