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T.B.C. : SDT-F-STT

Test Booklet Series

D

Serial 1005804

TEST BOOKLET

STATISTICS

Paper I

Time Allowed : Two Hours *Maximum Marks : 200*

INSTRUCTIONS

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET *DOES NOT* HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS, ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
2. **Please note that it is the candidate's responsibility to encode and fill in the Roll Number and Test Booklet Series Code A, B, C or D carefully and without any omission or discrepancy at the appropriate places in the OMR Answer Sheet. Any omission/discrepancy will render the Answer Sheet liable for rejection.**
3. You have to enter your Roll Number on the Test Booklet in the Box provided alongside. *DO NOT* write *anything else* on the Test Booklet.
4. This Test Booklet contains **80** items (questions). Each item comprises four responses (answers). You will select the response which you want to mark on the Answer Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose *ONLY ONE* response for each item.
5. You have to mark all your responses *ONLY* on the separate Answer Sheet provided. See directions in the Answer Sheet.
6. All items carry equal marks.
7. Before you proceed to mark in the Answer Sheet the response to various items in the Test Booklet, you have to fill in some particulars in the Answer Sheet as per instructions sent to you with your Admission Certificate.
8. After you have completed filling in all your responses on the Answer Sheet and the examination has concluded, you should hand over to the Invigilator *only the Answer Sheet*. You are permitted to take away with you the Test Booklet.
9. Sheets for rough work are appended in the Test Booklet at the end.
10. **Penalty for wrong answers :**

THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY A CANDIDATE IN THE OBJECTIVE TYPE QUESTION PAPERS.

(i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, **one-third** of the marks assigned to that question will be deducted as penalty.

(ii) If a candidate gives more than one answer, it will be treated as a **wrong answer** even if one of the given answers happens to be correct and there will be same penalty as above to that question.

(iii) If a question is left blank, i.e., no answer is given by the candidate, there will be **no penalty** for that question.

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Consider the following for the next three (03) items that follow :

Let the joint p.d.f. of X and Y be

$$f(x, y) = \begin{cases} 6(1 - x - y), & x > 0, y > 0, x + y < 1 \\ 0, & \text{otherwise.} \end{cases}$$

1. What is the value of E(XY) ?

(a) 10

(b) 20

(c) 1/10

(d) 1/20

2. What is the value of Cov(X, Y) ?

(a) 1/40

(b) 1/80

(c) – 1/40

(d) – 1/80

3. What is the equation of line of regression of X and Y ?

(a) X = (3 – 5Y)/15

(b) X = (1 – Y)/3

(c) X = (5 – 3Y)/15

(d) X = (1 – Y)/5

Consider the following for the next two (02) items that follow :

Let the joint density function of X and Y be

$$f(x, y) = \begin{cases} 8xy, & 0 < x < y < 1 \\ 0, & \text{otherwise.} \end{cases}$$

4. What is $E[Y \mid X = x]$ equal to ?

(a) $\frac{1}{5}\left(\frac{1-x^3}{1+x^2}\right)$

(b) $\frac{2}{5}\left(\frac{1+x^3}{1-x^2}\right)$

(c) $\frac{2}{3}\left(\frac{1-x^3}{1-x^2}\right)$

(d) $\left(\frac{1+x^3}{1+x^2}\right)$

5. What is the value of $\left[Y^2 \Big|_{X=0.5} \right]$?

(a) 0·5

(b) 0·525

(c) 0·6

(d) 0·625

6. How large a sample must be taken in order that the probability will be at least 0·95 and the sample mean will be within 0·5-neighbourhood of the population mean, provided population standard deviation is 1 ?

(a) 80

(b) 79

(c) 74

(d) Cannot be determined

7. Let $A_1, A_2, A_3, \ldots$ be a sequence of events and let $E = \limsup A_n$. If $\sum_{n=1}^{\infty} P(A_n) < \infty$, then P(E) is equal to

(a) 1

(b) 1/2

(c) 1/4

(d) 0

8. Consider the following statements in respect of characteristic function of a random variable :

1. It always exists.
2. It is uniformly continuous on R.
3. It is not independent of change of origin and scale.
4. If characteristic function of sum of two random variables is same as the product of their individual characteristic functions, then the variables are independent.

Which of the above statements are correct ?

(a) 1, 2 and 3 only
(b) 1, 2 and 4 only
(c) 1, 3 and 4 only
(d) 2, 3 and 4 only

9. What is the value of

$$\lim_{n\to\infty} \sum_{j=n}^{4n} \binom{4n}{j} \left(\frac{1}{4}\right)^{j} \left(\frac{3}{4}\right)^{4n-j} ?$$

(a) 0
(b) 1/4
(c) 1/2
(d) 3/4

10. For a sequence of Bernoulli trials, the fraction of successes f/n is a consistent estimator of the probability of success p. This follows from

(a) Central limit theorem
(b) De Moivre-Laplace theorem
(c) Law of large numbers
(d) Chebyshev's theorem

11. Consider a random sample of size 4 from a population having density function

$$f(x) = \begin{cases} 2x, & 0 < x < 1 \\ 0, & \text{otherwise} \end{cases}$$

If the four ordered observations are $x_1 < x_2 < x_3 < x_4$, then the $P\left[\frac{1}{2} < x_3\right]$ is

(a) $\frac{15}{16}$
(b) $\frac{243}{256}$
(c) $\frac{1}{2}$
(d) $\frac{247}{256}$

12. Consider the following conditions in respect of attributes A and B :

1. $(AB) \le (A)$
2. $(AB) \le (B)$
3. $(AB) \ge (A) + (B) - N$

Which of the above conditions are required for the consistency of data on the two attributes A and B ?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

13. Consider the following statements :

1. Mean deviation is minimum when the deviations are taken from the median.
2. If the units of measurements of variables of two series are not the same, their variabilities can be compared by standard deviations.
3. A series with smaller coefficient of variation is more consistent.

Which of the above statements is/are correct ?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 3 only

14. Consider the following statements :

1. (X, Y) possesses a bivariate normal distribution iff every linear combination of X and Y is a normal variate.
2. If the marginal of X and Y are normal, then it always implies that (X, Y) is bivariate normal.

Which of the above statements is/are correct ?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

15. If $(X, Y) \sim BVN(0, 0, 1, 1, \rho)$ then what is the value of $E[(\max(X, Y)]$?

(a) $\sqrt{\pi\rho}$
(b) $\sqrt{\frac{\rho}{\pi}}$
(c) $\sqrt{\pi(1-\rho)}$
(d) $\sqrt{\frac{1-\rho}{\pi}}$

16. Let random variables X and Y have joint p.d.f. $f(x, y) = \frac{1}{3}(x + y)$; $0 \le x \le 1$, $0 \le y \le 2$. What is the value of E(XY) ?

(a) 2/3
(b) 5/3
(c) 2/9
(d) 5/9

17. If x is a standard normal variate, then the third degree orthogonal polynomial is

(a) $x^3 + x^2 - 1$
(b) $x^3 + 3x + 4$
(c) $x^3 - 3x$
(d) $x^3 + x^2 - 6$

Consider the following for the next three (03) items that follow :

Let (X, Y) follow Bivariate Normal distribution with joint p.d.f.

$$f(x, y) = k \exp\left[-\frac{8}{27}\{(x-7)^2 - 2(x-7)(y+5) + 4(y+5)^2\}, (x, y) \in \mathbb{R}^2\right]$$

18. What are the values of V(X) and V(Y) respectively ?

(a) 9/4 and 9/16
(b) 9/16 and 9/32
(c) 9/4 and 9/32
(d) 9/16 and 9/16

19. What is the approximate value of k ?

(a) $0{\cdot}31/\pi$
(b) $0{\cdot}41/\pi$
(c) $0{\cdot}51/\pi$
(d) $0{\cdot}61/\pi$

20. What is the line of regression of Y on X ?

(a) $Y = 6{\cdot}75X - 0{\cdot}25$
(b) $Y = 0{\cdot}25X - 6{\cdot}75$
(c) $Y = 6{\cdot}25X + 0{\cdot}45$
(d) $Y = 6{\cdot}25X + 6{\cdot}75$

21. If $\{x_n : n \geq 1\}$ is a sequence of independent and identically distributed random variables with mean $\frac{1}{2}$, then the probability of the event $\left\{|x_n| > \frac{n}{2} \text{ for infinitely many } n\right\}$

(a) is equal to 0.

(b) is equal to $\frac{1}{2}$.

(c) lies strictly between $\frac{1}{2}$ and 1.

(d) is equal to 1.

22. Suppose n is a natural number and the random variable Y is distributed on $\{-n, -n+1, \ldots, -1, 0, 1, 2, 3, \ldots, n-1, n\}$ with the property that for every $k \in \{1, 2, 3, \ldots, n\}$, $\text{Prob}(Y = k) = 2\,\text{Prob}(Y = -k) > 0$. Then for $y \in \{1, 4, 9, \ldots, n^2\}$, $E(Y \mid Y^2 = y)$ is equal to

(a) $-\sqrt{\frac{y}{3}}$

(b) $-\sqrt{\frac{y}{2}}$

(c) $\frac{\sqrt{y}}{3}$

(d) $\frac{y}{2}$

23. Suppose a random variable X has mean 12 and the bound given by Chebychev's inequality for the probability $\text{Prob}(2 < X < 22) \geq \frac{3}{4}$. Then $E(X^2)$ is equal to

(a) 17

(b) 37

(c) 112

(d) 169

24. To find out the prevalence of a virus in a city's population of size 1,00,000, a blood test was carried out on 200 randomly selected citizens. If the test returned 8 positive results, the distribution of number of affected persons in a random sample of size 500 from the population can approximately be taken as

(a) Poisson (40)

(b) Poisson (20)

(c) Poisson (8)

(d) Poisson (16/5)

25. Suppose $(X_1, X_2, \ldots, X_n)$ are independent and identically distributed random variables with finite second moment and for some $x \in \mathbb{R}$, $\text{Prob}(X_1 + X_2 \ldots + X_n \leq x\sqrt{n})$ converges to $\Phi(2)$. If the variance of the common distribution of $X_1, X_2, \ldots$ is 4, then $\text{Prob}(X_1 + X_2 \ldots + X_n \leq \frac{1}{x}\sqrt{n}) =$

(a) does not converge

(b) converges to 0

(c) converges to $\Phi(1/2)$

(d) converges to $\Phi(1/8)$

26. If $\{X_n : n \geq 1\}$ is a sequence of independent and identically distributed random variables with $E(X_1) = 1$, $E(X_1^4) < \infty$ and $\frac{X_1^2 + X_2^2 + X_3^2 + \ldots + X_n^2 - 5n}{\sqrt{12n}} \xrightarrow{d} N(0, 1)$ then $V(X_1)$ equals

(a) 4

(b) 5

(c) $\sqrt{12}$

(d) 12

27. Let X have a continuous distribution function F. Consider the following statements :

Statement-1 : $Y = -\log F(X)$ is exponentially distributed.

Statement-2 : F(X) is uniformly distributed in [0, 1].

Which one of the following is correct in respect of the above statements ?

(a) Both Statement-1 and Statement-2 are true and Statement-2 is the correct explanation for Statement-1.

(b) Both Statement-1 and Statement-2 are true, but Statement-2 is ***not*** the correct explanation for Statement-1.

(c) Statement-1 is true, but Statement-2 is false.

(d) Statement-1 is false, but Statement-2 is true.

28. Let Y_1 and Y_2 be the independent random variables defined as $Y_1 = 2X_1 + 3X_2$ and $Y_2 = X_1 + 2X_2$ where X_1, X_2 are independent random variables. Further $Var(Y_1) = 72$ and $Var(Y_2) = 25$, then what is $Var\left(\frac{2}{3}X_1 - 4X_2\right)$ equal to ?

(a) 10

(b) 22

(c) 60

(d) 68

29. 16 persons amongst whom are A and B, are seated at a round table. What is the probability that there are 4 persons between A and B ?

(a) $\frac{11}{240}$

(b) $\frac{11}{480}$

(c) $\frac{2}{15}$

(d) $\frac{1}{15}$

30. X has a Binomial distribution with parameters n and p. If the skewness and kurtosis of X are given by $\gamma_1 = 1/6$ and $\gamma_2 = -1/12$, then what are the values of n and p respectively ?

(a) 9 and 2/3

(b) 18 and 1/3

(c) 18 and 2/3

(d) 9 and 1/3

31. Consider the following frequency distribution :

Class	Frequency
1 – 5	10
6 – 10	15
11 – 15	25
16 – 20	25
21 – 25	15
26 – 30	10

With reference to the above frequency distribution, match List I with List II and select the correct answer using the code given below :

List I (Characteristics)	*List II (Numerical values)*
A. First decile	1. 5
B. First quartile	2. 5·5
C. Median	3. 10
D. Quartile deviation	4. 10·5
	5. 15
	6. 15·5

Code :

	A	B	C	D
(a)	2	4	6	1
(b)	1	3	5	2
(c)	2	4	5	3
(d)	1	3	4	2

32. In the case of three variables x_1, x_2 and x_3 given that every pair-wise simple correlation coefficient equals r, what is the partial correlation coefficient $r_{12\cdot3}$ equal to ?

(a) r

(b) $\frac{1}{r+1}$

(c) $\frac{r}{r+1}$

(d) $\frac{1}{1-r}$

33. Consider the following statements :

1. Mean and variance of chi-square distribution are not same.
2. Sum of two chi-square variates is also a chi-square variate.

Which of the above statements is/are correct ?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

34. The correlation coefficient of a random sample of size 11 from a bivariate normal population is found to be 0·6. The value of the t-statistic used to test for significance of the population correlation coefficient is

(a) 2·25
(b) 2·8
(c) 6·75
(d) 8·44

35. Based on two samples of sizes 4 and 3 respectively from two variables X and Y, the ordered combined sample formed out as $x_3 < x_2 < y_1 < y_2 < x_4 < y_3 < x_1$. The value of the Mann-Whitney statistic to test for identicality of their distributions is

(a) 5
(b) 7
(c) 10
(d) 11

36. The variance of the Mann-Whitney statistic used to test for identicality of two distributions based on independent samples of sizes 15 and 20 respectively, is

(a) 28
(b) 532
(c) 875
(d) 900

37. In estimating μ based on a random sample from $N(\mu, \sigma^2)$ distribution, the sample mean is more asymptotically efficient than the sample median for all values of

(a) μ and σ^2
(b) σ^2, if and only if $\mu = 0$
(c) μ, if and only if $\sigma^2 = 1$
(d) σ^2, if and only if $\mu \neq 0$

38. Let X be a random variable with probabilities as given below :

Value	2	-2	...	$(-1)^{i+1}\frac{2^i}{i!}$	...
Probability	$\frac{1}{2}$	$\left(\frac{1}{2}\right)^2$	...	$\left(\frac{1}{2}\right)^i$	...

What is E(X) equal to ?

(a) 1
(b) e^{-1}
(c) $e - 1$
(d) $1 - e^{-1}$

39. If the mean deviation of x from its mean is 5, then the mean deviation of $y = 2x + 3$ from its mean is

(a) 17
(b) 13
(c) 10
(d) 5

40. Lifetimes in days, in order of observed failures, for a robust component are recorded below :

198, 211, 216, 219, 224, 225, 230, 236, 243, 252, 253, 253, 262, 264, 268, 271, 272, 275, 282, 284, 288, 291, 294, 295

Consider the following statements :

1. The given sample is random with median lifetime 257·50.
2. Mean number of runs is 13 with standard deviation 1·396.

Which of the above statements is/are correct ?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

41. Which one of the following statements is correct about Newton's divided difference formula ?

(a) It is a special case of Newton's forward difference formula.

(b) It is not applicable if values of the arguments are uniformly distributed.

(c) It is applicable whether or not the values of the arguments are uniformly distributed.

(d) The roles of argument and the entry can be interchanged in this formula.

42. What is the approximate value of y for $\frac{dy}{dx} = x + y$ obtained by using Runge-Kutta method of fourth order when $x = 0{\cdot}1$ and given that $y(0) = 1$?

(a) 1·1103

(b) 1·2124

(c) 1·3236

(d) 1·4125

43. $\Delta^3 y_2$ is equal to

(a) y_2

(b) $\Delta^2 y_2$

(c) $\nabla^3 y_5$

(d) y_5

44. Consider the following data :

x	0	1	2	5
f(x)	2	3	12	147

What is the degree of the Lagrange's interpolation polynomial that represents the above data ?

(a) 4

(b) 3

(c) 2

(d) 1

45. The number of subintervals required in Simpson's three-eighth rule is a multiple of

(a) 2

(b) 3

(c) 4

(d) 5

46. Consider the following statements :

1. In interpolation, to find a tabulated value near the beginning of the table, Newton's forward formula is used.

2. To find an interpolated value near the centre of the table, Bessel's formula is used.

3. For unequal subintervals, Lagrange's interpolation formula is used.

Which of the above statements are correct ?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

47. Runge-Kutta method of fourth order means that its local truncation error denoted by e is

(a) $e = ch^4 + O(h^5)$

(b) $e = ch^5 + O(h^6)$

(c) $e = ch^3 + O(h^4)$

(d) $e = ch^2 + O(h^3)$

48. Consider the following data :

x	– 1	0	1	2
f	4	2	2	4

The interpolating polynomial for the above data is

(a) $2x^2 - x + 2$

(b) $x^2 + x - 2$

(c) $x^2 - x + 2$

(d) $2x^2 + x - 2$

49. The second divided difference of $f(x) = \frac{1}{x}$, with arguments a, b, c is given by

(a) $f[a\ b\ c] = abc$

(b) $f[a\ b\ c] = \frac{1}{a} + \frac{1}{b} + \frac{1}{c}$

(c) $f[a\ b\ c] = \frac{1}{a+b+c}$

(d) $f[a\ b\ c] = \frac{1}{abc}$

50. What is the second approximation to y when $x = 0{\cdot}2$ for $\frac{dy}{dx} = x - y$ obtained by using Picard's method [given that $y(0) = 1$] ?

(a) 0·8278

(b) 0·8387

(c) 0·8327

(d) 0·8297

51. In the context of database management system, which one of the following data models enables us to arrange data files in the tree structure ?

(a) Network model

(b) Relational model

(c) Hierarchical model

(d) None of the above

52. Which of the following is/are an advantage/advantages of star topology ?

1. If the hub fails, the overall network will not be affected.
2. It requires more amount of cable for connecting the nodes.
3. It allows easy error detection and correction.

Select the correct answer using the code given below :

(a) 1 only

(b) 2 only

(c) 3 only

(d) 2 and 3 only

53. Which one of the following is ***not*** correct about Python language ?

(a) It is an interpreted language.

(b) It is a platform dependent language.

(c) The syntax of this language is clear.

(d) It is free and open source.

54. Which one of the following protocols is commonly used to retrieve e-mail from a mail server ?

(a) FTP

(b) IMAP

(c) HTML

(d) TELNET

55. Which one of the following is ***not*** a real-time operating system ?
(a) MTOS
(b) LINUX
(c) Lynx
(d) RTX

56. In which one of the following techniques is the virtual address used to map the physical address of the data ?
(a) Segmentation
(b) Swapping
(c) Scheduling
(d) Paging

57. Which one of the following is ***not*** a system software ?
(a) Linker
(b) Operating system
(c) Word processor
(d) Assembler

58. Which one of the following binary numbers gives output as 100101 by performing AND operation with a binary number 101101 ?
(a) 101101
(b) 100101
(c) 111010
(d) 110011

59. Which of the following are output devices ?
1. Printer
2. Speaker
3. Plotter
4. Webcam

Select the correct answer using the code given below :
(a) 1 and 2 only
(b) 1, 2 and 3 only
(c) 3 and 4 only
(d) 1, 2, 3 and 4

60. Which one of the following is ***not*** a Raster Image format ?
(a) JPEG
(b) TIFF
(c) GIF
(d) SVG

61. It is given that

$$\det A = \begin{vmatrix} f(1) & f(2) & f(5) \\ 1 & 2 & 5 \\ 1 & 1 & 1 \end{vmatrix} = 60.$$

What is the value of second divided difference f[1, 2, 5] ?
(a) – 5
(b) – 1/5
(c) 5
(d) 1/5

62. For a polynomial f(x) of degree 2, its values at 110, 120, 130, 140 and 150 are respectively 8, 3, 0, – 1, 0. What is f(100) equal to ?
(a) 5
(b) 10
(c) 15
(d) 20

63. Consider the following statements :
1. The hypothesis of Simpson's three-eighth rule is that the integrand is a polynomial of degree 3 on each sub-interval $[x_0 + (i - 1)h, x_0 + ih]$ for $1 \le i \le n$.
2. To approximate $\int_a^b f(x)\,dx$ by Trapezoidal rule, one divides the interval [a, b] into any number of (finitely many) sub-intervals of equal size.

Which of the above statements is/are correct ?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

64. Consider the following data :

Marks below	Number of Students
40	250
60	370
80	470
100	540
120	590

The approximate number of students securing marks between 60 and 70 obtained by using Newton's forward interpolation formula is

(a) 54

(b) 58

(c) 62

(d) 66

65. Consider the data $f(1) = 0{\cdot}98$, $f(2) = 1{\cdot}5$, $f(3) = 4{\cdot}7$, $f(5) = 9{\cdot}9$. From the given data, one can obtain $f(2{\cdot}9)$ using which of the following formulae ?

1. Lagrange's interpolation formula
2. Newton's divided difference formula

Select the correct answer using the code given below :

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

66. Consider the following data :

x	1	2	4
f(x)	2	17	257

An approximation to f(3) is given by

(a) 92

(b) 102

(c) 165

(d) 182

67. What is the value of $\frac{\Delta^2}{E}(x^3)$ for $h = 1$?

(a) $6x$

(b) $3x$

(c) $2x$

(d) x

68. The value of y_4 in the solution of the equation $\frac{dy}{dx} = x^2 + y^2$ with $h = 0{\cdot}1$, $y(0) = 0$ for $0 \le x \le 0{\cdot}4$ obtained by Euler's method is approximately equal to

(a) 0·002

(b) 0·005

(c) 0·009

(d) 0·014

69. Consider the following data :

x	0	1	2	4	5	6
f(x)	1	14	15	5	6	19

The value of f(3) obtained using Newton's divided difference formula is

(a) 1

(b) 5

(c) 10

(d) 15

70. Which one of the following holds for every $n \ge 0$?

(a) $\Delta^n x^{(n)} = nh^n$

(b) $\Delta^n x^{(n)} = n(n-1)h^n$

(c) $\Delta^n x^{(n)} = n!\, h$

(d) $\Delta^n x^{(n)} = n!\, h^n$

71. Which one is responsible for determining MAC address ?

(a) ICMP

(b) IP

(c) ARP

(d) FTP

72. There are 4 chips. What is the number of data lines required for Read/Write operations of memory chip containing 2048 locations and each location is of 2 bytes ?

(a) 11

(b) 16

(c) 2

(d) 12

73. A major security problem for operating system is

(a) Authentication problem

(b) Physical problem

(c) Human problem

(d) None of the above

74. Consider the following types of memory in computer systems :

1. Cache memory
2. ROM
3. Optical disks
4. Registers

Which of the above are types of internal process memory ?

(a) 1 and 2 only

(b) 1, 2 and 4 only

(c) 1 and 4 only

(d) 2, 3 and 4 only

75. Consider the following fragments :

1. Replication of a bug
2. Understanding the bug
3. Testing the bug
4. Fixing the bug

Which of the above are parts of debugging process ?

(a) 1, 2 and 4 only

(b) 1 and 2 only

(c) 1, 2, 3 and 4

(d) None of the above

76. Binary equivalent of Gray coded number 10101110 will be

(a) 10101110

(b) 11011000

(c) 11001011

(d) 01010001

77. Which one of the following memory locations is first referred to by the CPU while searching for data ?

(a) ROM

(b) Secondary memory

(c) Main memory

(d) Cache memory

78. The hexadecimal equivalent of $(6251)_8$ is

(a) CA8

(b) BA9

(c) CA9

(d) CA0

79. Which one of the following is an example of Embedded operating systems ?

(a) Linux

(b) Windows 2000

(c) Windows CE

(d) MTOS

80. What is the output of lexical analyzer ?

(a) Parse tree

(b) List of tokens

(c) Intermediate code

(d) Machine code

SPACE FOR ROUGH WORK

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STATISTICS PAPER- 1(ONE)- SET-A

Number of items-080 No of items dropped- 02 Maximum Marks-200

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

q no. 15 — Dropped

Q.n 20 — Dropped

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STATISTICS PAPER- 1(ONE)- SET-B

Number of items-080 No of items dropped- 02 Maximum Marks-200

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

Q no 25 - dropped
Q no 30 - dropped

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STATISTICS PAPER- 1(ONE)- SET-C

Number of items-080 No of items dropped- 02 Maximum Marks-200

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

Q no 35 - dropped
Q no 40 - dropped.

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STATISTICS PAPER- 1(ONE)- SET-D

Number of items-080 No of items dropped-02 Maximum Marks-200

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

Q no - 5 - dropped
Q no - 10 - dropped