PURBANCHAL UNIVERSITY
Gothgaun, Morang
FACULTY OF SCIENCE & TECHNOLOGY
ENTRANCE EXAMINATION – Model Questions 2078

BCA / BIT

Time: 2:00 Hours **Total Marks: 100**

Choose the most appropriate answer and DARKEN the circle on the attached ANSWER SHEET. Answer all questions. All questions carry equal marks.

1. It is the first time I ..... you.
   (a) have advised (b) am advising (c) will advised (d) will have advised
2. Everybody has completed ..... task.
   (a) her (b) his (c) his/her (d) their
3. I will ..... you on next Sunday.
   (a) call on (b) call in (c) call at (d) call for
4. When I .....to Lahan, I shall inform you.
   (a) shall go (b) go (c) went (d) been
5. He writes ..... pencil.
   (a) with (b) by (c) from (d) in
6. His mother speaks to ..... everyday.
   (a) they (b) she (c) he (d) him
7. The ending '-ize' cannot be added to .....
   (a) American (b) famous (c) popular (d) formal
8. I offered ..... him.
   (a) help (b) to help (c) helping (d) None of these
9. Somebody has noticed her, ...?
   (a) haven't they (b) has somebody (c) have they (d) did they
10. If I had seen the movie, I ..... you about it last night.
    (a) would tell (b) will tell (c) would have told (d) told
11. Which of the followings is a complex sentence?
    (a) Rita tried her level best to pass the exam.
    (b) She did well on the test and was awarded the first prize.
    (c) He, who is not content with the rules, may leave.
    (d) She is not only a lawyer but also a professor.
12. The more electricity you use, ...
    (a) your bill will be higher (b) will be higher your bill
    (c) the higher your bill will be (d) you will get higher bill
13. You should insure your bicycle ..... stolen.
    (a) if it is (b) in case it is (c) if it will be (d) in case it will be
14. It's not my fault. You cannot blame .....
    (a) yourself (b) myself (c) me (d) itself
15. I must go now. I promised ..... late.
    (a) not being (b) not to be (c) won't be (d) wouldn't be

16. We ..... visit our grandparents in winter. They go on pilgrimage then.
(a) never (b) usually (c) ever (d) often

17. Please forgive me ..... you. It was so unfair.
(a) to interrupt (b) for interrupting (c) interrupting (d) interrupted

18. I did it while he ..... away.
(a) was (b) being (c) is (d) is going

19. General names are called .....
(a) collective nouns (b) material noun (c) common noun (d) proper noun

20. Kareena is the only one of those students who ..... lived up to the potential described in the yearbook.
(a) have (b) has (c) had (d) None of these

21. You, he and I can do ..... problems.
(a) his (b) our (c) your (d) their

22. Sarita made the barber..... her hair.
(a) trim (b) to trim (c) trimmed (d) trimming

23. You robbed me ..... my belongings.
(a) by (b) on (c) of (d) from

24. I felt the building .....
(a) shake (b) shaking (c) shaken (d) to shake

25. It ..... since last Monday.
(a) is raining (b) has rained (c) has been raining (d) was raining

26. In the matrix $\begin{bmatrix} 2 & 3 & 1 \\ 4 & 0 & 1 \\ -2 & 3 & 4 \end{bmatrix}$, what is the cofactor of a_{32}?
(a) 6 (b) -6 (c) -2 (d) 2

27. If A + B + C = π, then (A+B) = ...
(a) $Cos\frac{1}{2}C$ (b) $Sin\frac{1}{2}C$ (c) $-Cos\frac{1}{2}C$ (d) $-Sin\frac{1}{2}C$

28. What is the value of $\lim_{x\to 0}\frac{Tanx}{x}$ if the angle x is in degree measure?
(a) 1 (b) 180/π (c) π/180 (d) 0

29. For mutually perpendicular unit vectors $\hat{i}, \hat{j}$ and $\hat{k}$, which relation does not hold?
(a) $\hat{i}.\hat{i}=1$ (b) $\hat{j}.\hat{k}=1$ (c) $\hat{i}\times\hat{j}=\hat{k}$ (d) $\hat{j}\times\hat{i}=-\hat{k}$

30. What is the vector area of a parallelogram whose adjacent sides are represented by the vectors $\bar{a}$ and $\bar{b}$?
(a) $\vec{a}.\vec{b}$ (b) $|\vec{a}\times\vec{b}|$ (c) $\frac{1}{2}|\vec{a}\times\vec{b}|$ (d) $\frac{1}{2}|\vec{a}+\vec{b}|$

31. |x+3| < 4 implies .....
(a) $-7 \le x \le 1$ (b) $-7 < x < 1$ (c) $1 < x < 7$ (d) $-1 \le x \le 7$

32. In ΔABC, if $\cos A = \frac{\sin A}{\sin C}$, then the triangle is .....
(a) Isosceles (b) Equilateral (c) Right-angled (d) None of these

33. The center of the circle $3x^2+3y^2+5x-6y+9=0$ is .....
(a) $\left(\frac{5}{3},2\right)$ (b) $\left(-\frac{5}{6},1\right)$ (c) $(5,6)$ (d) $\left(-\frac{5}{2},3\right)$

34. $\lim_{n\to\infty}\frac{1^2+2^2+3^2+.....+n^2}{n^2}$ is equal to .....

(a) $\frac{1}{2}$ (b) $\frac{1}{3}$ (c) $\frac{1}{6}$ (d) $\frac{2}{3}$

35. $\int x.\cos x^2 dx$ is equal to .....

(a) $x\sin x^2+c$ (b) $\frac{\sin x^2}{2}+c$ (c) $\frac{\cos x^2}{2}+c$ (d) $\frac{x^2}{2}\sin x^2+c$

36. $\int_1^e \ln x dx$ is .....

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

37. The value of k , for which the line segment joining the points (1,2,k) and (5,7,15) is perpendicular to the line segment joining the points (4,7,1) and (3,5,3) is .....

(a) 6 (b) 8 (c) 10 (d) 12

38. If $sec^{-1}x - cosec^{-1}y$ then the value of $\frac{1}{x^2}+\frac{1}{y^2}=$ .....

(a) −1 (b) 0 (c) 1/2 (d) 1

39. If the coefficient of 17th and 20th term in the expansion of $(x+2y)^n$ are same, then the value of n = ...

(a) 37 (b) 36 (c) 35 (d) 32

40. The derivatives of log (log x) is .....

(a) $\frac{x}{\log x}$ (b) $\frac{1}{x(\log x)}$ (c) $\frac{\log x}{x}$ (d) 0

41. The perpendicular distance of the origin from the line $3x+4y+1=0$ is .....

(a) $-\frac{1}{5}$ (b) $\frac{1}{5}$ (c) 1 (d) −1

42. If $\vec{a},\vec{b},\vec{c}$ are unit vectors such that $\vec{a}+\vec{b}+\vec{c}=\vec{0}$, then $\vec{a}.\vec{b}+\vec{b}.\vec{c}+\vec{c}.\vec{a}$ = ...

(a) 0 (b) $-\frac{1}{2}$ (c) $-\frac{3}{2}$ (d) $\frac{5}{2}$

43. If $A=\begin{bmatrix} x+5 & x+2 \\ 2x+1 & x-1 \end{bmatrix}$ is a symmetric matrix, then the value of x is equals to .....

(a) 1 (b) −1 (c) 2 (d) 0

44. If $\cos\theta+\sqrt{3}\sin\theta=2$, then the principle value of θ is equals to .....

(a) $\frac{\pi}{3}$ (b) $\frac{2\pi}{3}$ (c) $\frac{4\pi}{3}$ (d) $\frac{5\pi}{3}$

45. The angles between the pair of straight lines $y^2\sec^2\theta - 2xy\tan\theta - x^2(1+\tan^2\theta)=1$ is .....

(a) $\frac{\pi}{4}$ (b) $\frac{\pi}{2}$ (c) $\frac{\pi}{6}$ (d) $\frac{\pi}{3}$

46. Evaluate the limit of the function $\frac{3^x-3^{-x}}{x}$ as $x\to 0$.

(a) $\log_e 6$ (b) $\log_e 3$ (c) $\log_e 9$ (d) $-\log_e 3$

47. The derivative of log(Cosx) is .....

(a) Cotx (b) 1/Cosx (c) −Tanx (d) Secx

48. $\lim_{x\to 2}(2x^2+3x-14)$ is equals to .....

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

49. Which of the followings is true?

(a) $\frac{dy}{dx}$ = udv/dx +vdu/dx (b) $\frac{dy}{dx}$ = udv/dx - vdu/dx

(c) $\frac{dy}{dx}$ = udu/dx +v dv/dx (d) None of these

50. Arithmetic mean between 3+√3 and 3-√3 is .....

(a) 2 (b) √2 (c) 3 (d) 4

51. Which of the followings is database language?

(a) C (b) C++ (c) SQL (d) None of these

52. If you want to duplicate the entire disk, which command will you use?

(a) Copy (b) Disk Copy (c) Chkdsk (d) Format

53. Home key is used for .....

(a) Moving the cursor at the beginning of the document
(b) Moving the cursor at the beginning of the paragraph
(c) Moving the cursor at the beginning of the screen
(d) Moving the cursor at the beginning of the line

54. Vertical dimension of a spreadsheet is called .....

(a) row (b) column (c) record (d) None of these

55. Which of the followings is the presentation software?

(a) Avast (b) Google Chrome (c) Mozilla Firefox (d) Ms PowerPoint

56. Computer is free from tiresome and boardroom. We call it .....

(a) accuracy (b) reliability (c) diligence (d) versatility

57. A high quality CAD system that uses the following for printing, drawing and graphs is .....

(a) dot matrix printer (b) digital plotter (c) line printer (d) All of these

58. The programs which are as permanent as hardware and stored in ROM is known as .....

(a) Hardware (b) Software (c) Firmware (d) ROMware

59. Internet access by transmitting digital data over the wires of a local telephone network is provided by .....

(a) Leased Line (b) Digital Subscriber Line
(c) Digital Signal Line (d) Digital Leased Line

60. Which of the following entities does not belong to word processing?

(a) Paragraphs (b) Cells (c) Words (d) Characters

61. Total number of function keys in a computer keyboard is .....

(a) 10 (b) 12 (c) 14 (d) 16

62. Which key combination is used to permantly delete a file or folder?

(a) Shift+Del (b) Alt+ Del (c) CTRL+Del (d) Del

63. Which one of the following is not a computer language?

(a) BASIC (b) LOTUS (c) C++ (d) JAVA

64. ..... folder contains the recently viewed Web pages content.

(a) Explorer (b) History (c) Windows (d) Temporary Internet Files

65. The cells are addressed in terms of .....

(a) row and column labels (b) row labels
(c) rows (d) columns

66. The first Web browser is .....
(a) Internet Explorer (b) Netscape (c) Mosaic (d) Opera

67. ..... is the process of dividing the disk into tracks and sectors.
(a) Tracking (b) Crashing (c) Formatting (d) Allotting

68. The ability to recover and read deleted or damaged files from a criminal's computer is an exam of a law enforcement speciality called .....
(a) simulation (b) animation (c) robotics (d) computer forensics

69. COBOL is an acronym of .....
(a) Common Business Oriented Language (b) Computer Business Oriented Language
(c) Computer Business Operated Language (d) Common Business Operated Language

70. Which one of the following groups contains graphical file extensions?
(a) GIF, TCE, WMF (b) JPG, CPX, GCM (c) BMP, JPG, GIF (d) TCP, JPG, BMP

71. What is the binary equivalent of $(625)_{10}$?
(a) 1001110001 (b) 1000111001 (c) 1000110011 (d) 1100110001

72. From which generation operating systems were developed?
(a) First (b) Second (c) Third (d) Fourth

73. High density double sided floppy disks could store ..... of data.
(a) 1.40 MB (b) 1.40 GB (c) 1.44 GB (d) 1.44 MB

74. The size of an IP address is .....
(a) 8 bits (b) 16 bits (c) 32 bits (d) 64 bits

75. Which of the following cables uses RJ45 connectors?
(a) Thick Co-axial Cable (b) Thin Co-axial Cable
(c) Shielded Twisted Pair Cable (d) Unshielded Twisted Pair Cable

76. The sum of first five prime numbers is .....
(a) 101 (b) 99 (c) 129 (d) 111

77. Determine the missing terms in the sequence: 42, 40, 38, 35, 33, 31, 28, ___, ___
(a) 25, 22 (b) 25, 23 (c) 26, 24 (d) 26, 22

78. The ..... of private limited companies is in the hands of its directors.
(a) managers (b) administrators (c) department (d) management

79. Light : Sun :: Heat : .....?
(a) Electricity (b) Moon (c) Fire (d) Star

80. If 3 x 4 = 14, 5 x 3 = 16 and 8 x 2 = 20, then find the value of 5 x 4 = ...?
(a) 18 (b) 24 (c) 15 (d) 21

81. Some bottles are plastics. All plastics are cups. Which of the following conclusions is correct?
(a) Some bottles are cups. (b) Some cups are plastics.
(c) All cups are plastics. (d) Both a and b are valid.

82. Which of the following are in ascending order of their value?
(a) 1/6, 2/9, 5/9, 4/7, 3/5, 2/3 (b) 1/2, 1/5, 2/5, 4/9, 2/3, 7/8
(c) 1/5, 3/7, 3/5, 2/3, 4/7, 5/6 (d) 1/6, 5/8, 2/5, 3/7, 8/9, 7/8

83. Who built Rani Pokhari?
(a) Pratap Malla (b) Prithvi Narayan Shah (c) Mandev (d) Jayasthiti Malla

84. Ram buys a shirt with marked price Rs.250 at 20% discount. In order to make a profit of 25%, he should sell the shirt for .....?
(a) Rs. 300 (b) Rs. 225 (c) Rs. 250 (d) Rs. 240

35. Which of the followings is meaningful sequence?
(a) Letter, Word, Phrase, Paragraph, Sentence (b) Letter, Word, Sentence, Phrase, Paragraph
(c) Letter, Paragraph, Phrase, Word, Sentence (d) Letter, Word, Phrase, Sentence, Paragraph

36. All women are mothers. All mothers are sisters. Which of the following conclusions is correct?
(a) Some women are not sisters. (b) All sisters are women.
(c) All women are sisters. (d) All sisters are mothers.

37. If one-third of one-fifth of a number is 8, then two-third of that number is .....
(a) 80 (b) 50 (c) 60 (d) 70

38. Of the three numbers, the sum of the first two is 73, the sum of the second and third is 77, and the sum of the third and twice the first is 79. What is the first number?
(a) 29 (b) 48 (c) 35 (d) None of these

39. Where is the central office of Purbanchal University located?
(a) Gothgaun, Jhapa (b) Gothgaun, Morang (c) Biratnagar, Morang (d) Gothgaun, Sunsari

40. A and B together can do a piece of work in 8 days. If A alone can do the same work in 12 days, then in how many days B alone can do the same work?
(a) 16 days (b) 20 days (c) 15 days (d) 24 days

41. When did Royal Massacre of King Birendra family occur?
(a) 19 Jestha 2056 B.S. (b) 19 Jestha 2057 B.S.
(c) 19 Jestha 2058 B.S. (d) 19 Jestha 2059 B.S.

42. Which was the second smallest district in Nepal based when the country was divided into 75 districts?
(a) Parbat (b) Kathmandu (c) Lalitpur (d) Dhankuta

43. The share market rose 20% on the first day. Then again 30% on the 2nd day and ended up 40 % lower on the third day's trading. Compared to its initial price on 1st day, the share market value after 3rd day's trading will be .....
(a) 110% (b) 93.6% (c) 91.2% (d) 100.5%

44. The continuously operating oldest University of the world lies in .....
(a) UK (b) India (c) China (d) Morocco

45. In a 100 seat upper house of a country, two third majority requires at least ..... seats.
(a) 66 (b) 67 (c) 68 (d) 70

46. The Sun rises in the east and ..... in the west.
(a) stops (b) falls (c) sets (d) ceases

47. In two similar triangles, the measure of their corresponding sides are .....
(a) proportional (b) parallel (c) congruent (d) opposite

48. Which province of Nepal has the highest population?
(a) Province 1 (b) Lumbini Province (c) Bagmati Province 3 (d) Gandaki Province

49. If the cost of 24 oranges is Rs.72, then find out the cost of 120 oranges.
(a) Rs.180 (b) Rs.360 (c) Rs.172 (d) Rs.500

50. How many metropolitan cities are present in Nepal at present?
(a) 5 (b) 6 (c) 7 (d) 8

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