

Tribhuvan University
Institute of Science and Technology
Bachelor of Information Technology (BIT)

Model Questions: 2076

Total Marks: 100

Time: 2 hrs.

Attempt all questions:

English (40 × 1 = 40)

1. I like in my spare time.
 a. reading b. read
 c. to read d. to reading
2. I went to the bookshop..... 'Harry potter'
 a. for buying b. to buy
 c. to buying d. for to by
3. He is interested..... learning Romanian.
 a. in b. on
 c. to d. for
4. Would you like.....to drink; sir?
 a. anything b. anywhere
 c. nothing d. something
5. What..... next weekend?
 a. do you do b. are you doing
 c. will you do d. did you do.
6. How many students in your class.....from Bangladesh?
 a. comes b. come
 c. came d. are coming
7. I am hungry I want two..... of chicken.
 a. plates b. pieces
 c. bowls d. gasses
8. They are ugly and expensive.....people buy them.
 a. though b. yet
 c. still d. besides
9. What time.
 a. the train leaves?
 b. leaves the train
 c. is the train leaving?
 d. does the train leave?
10. I promise I.....study harder.
 a. will b. am going to c. may d. must
11. How Long.....English?
 a. are you learning
 b. have you been learning
 c. do you learn
 d. you learn
12. I hope that a school for village children.
 a. opens b. is opened
 c. has to be opened d. be opened
13. Closest similar meaning of word 'compunction' is
 a. remorse b. merciful
 c. connive d. recklessness
14. Closest similar meaning of word 'demolish' is
 a. repair b. consume
 c. humiliate d. destroy
15. Closest similar meaning of word 'beneficent' is
 a. repair b. consume
 c. humanitarian d. destroy
16. loosest similar meaning of word 'mendacity' is
 a. mandatory b. untruthfulness
 c. veracity d. potential
17. closest opposite meaning of word 'theocracy' is
 a. hierocracy b. ideology
 c. conservative d. church state
18. Closest opposite meaning of word 'integrate' is
 a. accommodate b. compose
 c. articulate d. segregate
19. Closest opposite meaning of word 'calm' is
 a. excited b. restless c. cool d. serene
20. Closest opposite meaning of word 'wordy' is
 a. rambling b. concise
 c. diffuse d. voluble
21. A teacher needs to discuss in class ; itcuriosity In student
 a. creates b. created
 c. create d. will creates
22. Successfully people always two thing ;one determination and second sincere
 a. had b. doing c. did d. have
23. They like swimming whenever they have a leisure time [which word is a verbal noun?
 a. leisure b. free c. like d. swimming
24. Nobody likes heap of garbage in front of his house [which word is a verbal noun?
 a. leap of garbage b. in front
 c. house d. likes
25. Find interrogative pronoun in sentence 'why did you not call me? This made me alarmed'.
 a. you b. me
 c. why' d. did
26. Right grammatical category of the underlined phrase in the sentence 'Ram handed a book to his sister' is
 a. complement b. direct object
 c. adjunct d. Indirect object
27. Which of the following is noun?
 a. real b. readable c. reliable d. Reality
28. English is today the thirdnative language worldwide after chine's and Hindi ;with some 380million speakers
 a. the most spoken b. the more spoken
 c. much spoken d. most spoken
29. We could barely get any information at the airport People seemed to haveidea about the flights.
 a. many /any b. A lot of /any
 c. few / no d. only a few/some
30.his friends speaks any English.
 a. some b. all
 c. many d. neither of

31. These differences between two photographs..... with the help of Photoshop.
a. should remove b. have to remove
c. could have been removed
d. must have removed
32. New legislationin congress but it.....by many.
a. was introduced /wasn't accepted
b. was introduced /didn't accept
c. is introduced /won't accepted.
d. introduced /hadn't been accepted
33. Mike has been told he will have to pay the fine..... his high rank in the military.
a. Even if b. furthermore
c. despite d. on purpose that
34. The economy In china is booming Many foreign investors are planning to enter china's market
a. Nonetheless b. so as to
c. in addition to d. on purpose
35. I wish you making that noise . I't bothering me.
a. Would stop b. are going to stop
b. stop c. can stop
36.more help could call my neighbor.
a. Needed b. should I need
c. I have needed d. I should need
37. if you plan to take a long trip in the car; you most get a full tank of gas or youOut of gas.
a. have to run b. should have run
c. had better run d. might run
38. If you want to get a good night's sleep, you any tea or coffee in the evening.
a. Would rather drink
b. don't have to drink
c. mustn't drink
d. not able to drink
39. it is not easy for many civil servants to on their salaries as the inflation rate is extremely high
a. get by b. turn up
c. wear out d. run over
40. I though the party was going to be boring ' but it to be the most unforgettable of my life.
a. tuned out b. looked around
c. passed around d. fell back on
- Mathematic (40 × 1 = 40)**
41. Every rational number is also
a. a natural number
b. an integer
c. a whole number
d. a real number
42. If $a - ib = \frac{3-2i}{3+2i}$ then $a^2 + b^2 =$
a. 1 b. $\frac{4}{3}$ c. $\frac{3}{5}$ d. $\frac{2}{9}$
43. Given $U = \{1,2,3, \dots, 15\}, A = \{x: x \geq 8\}, B = \{x: x \leq 4\}$ then $A \cap B =$
a. $\emptyset$ b. U
c. $A \cup B$ d. None of these
44. Which are the equal ordered pairs?
a. (2,4), (4,2) b. (2,2), (4,4)
c. (4,2), (4,2) d. all of them
45. $S_{\infty} = \frac{a}{1-r}$, where a, r and S_{∞} denotes first term, common ratio and sum to infinity. If
a. $|r| < 1$ b. $|r| > 1$
c. $|r| = 1$ d. all of them
46. If $21_{C_x} = 21_{C_y}$ then which is true?
(a) $x \neq y$ (b) $x = y$
(c) $x + y = 21$ (d) either (b) or (c)
47. Which is not correct?
a. $(A^T)^T$ b. $(A + B)^T = A^T + B^T$
c. $(AB)^T = A^T B^T$ d. $(AB)^T = B^T A^T$
48. Which is not correct?
a. $\begin{vmatrix} a_1 & a_2 & a_3 \\ b_1 & b_2 & b_3 \\ c_1 & c_2 & c_3 \end{vmatrix} = \begin{vmatrix} a_1 & b_1 & c_1 \\ a_2 & b_2 & c_2 \\ a_3 & b_3 & c_3 \end{vmatrix}$
b. $\begin{vmatrix} 0 & a_2 & a_3 \\ b_1 & 0 & b_3 \\ c_1 & c_2 & 0 \end{vmatrix} = 0$
c. $\begin{vmatrix} a_1 & a_2 & a_3 \\ 0 & 0 & 0 \\ c_1 & c_2 & c_3 \end{vmatrix} = 0$
d. $\begin{vmatrix} a_1 & b_1 & c_1 \\ a_2 & b_2 & b_2 \\ a_3 & b_3 & c_3 \end{vmatrix} = \begin{vmatrix} a_1 + ka_3 & b_1 + kb_3 & c_1 + kc_3 \\ a_2 & b_2 & c_2 \\ a_3 & b_3 & c_3 \end{vmatrix}$
49. The equation $x=0$ represents
(a) x-axis (b) y-axis
(c) the origin (d) none of these
50. The angle between the lines $xy=0$ is
(a) 0° (b) 60° (c) 90° (d) 120°
51. Which is correct?
a. $\log_{10} 1 = 0$ b. $\log_{10} 0.1 = -1$
c. $\log_{10} 10 = 1$ d. all of them
52. The domain of $y = f(x) = \frac{1}{x}$ is
a. $R - \{0\}$ b. R c. $(-2, 1)$ d. $(-1, 1)$
53. Let $f: R \rightarrow R$ be defined by $f(x) = 10x - 7$ then $f^{-1}(x) =$
a. $\frac{1}{10x+7}$ b. $\frac{1}{10x-7}$ c. $\frac{x+7}{10}$ d. $\frac{x-7}{10}$
54. If t be a positive real number then the least value of $t + \frac{1}{t}$ is :

- a. 1 b. 2 c. 4 d. 3
55. The value of $\lim_{n \rightarrow \infty} \frac{\sqrt{x+1}}{\sqrt{x+1}}$ is
a. 0 b. 1 c. $\frac{1}{2}$ d. -1
56. The point of discontinuity of the function $f(x) = \frac{x^3-27}{x-3}$ is
a. 3 b. 6 c. 27 d. 0
57. If $x+y=xy$ then $\frac{dx}{dy} =$
a. $\frac{x-1}{y-1}$ b. $\frac{y-1}{1-x}$ c. $\frac{1-x}{y-1}$ d. $\frac{1+y}{1-x}$
58. If $x = 2at$, $y = at^2$ then $\frac{dy}{dx} =$
a. t b. $\frac{1}{t}$ c. t^2 d. 1
59. If the total cost function $C=50x+5000$. The marginal cost function MC is
a. $50 + \frac{5000}{x}$ b. $25x^2 + 5000x$
c. 50 d. none of these
60. The maximum value of $\sin\theta \cos\theta$ is
a. 1 b. $\frac{1}{\sqrt{2}}$ c. $\frac{\sqrt{3}}{2}$ d. $\frac{1}{2}$
61. The function $f(x)=2-3x$ is
(a) Decreasing
(b) Increasing
(c) Neither decreasing nor increasing
(d) Doesn't exist
62. $\int \log x \, dx =$
a. $\log x + c$ b. $xx \log x - x + c$
c. $x \log x + x + c$ d. $x \log x + c$
63. $\int_{-2}^2 |x| \, dx$ is equal to
a. 0 b. 1 c. 2 d. 4
64. If the marginal cost of a product is given by $MC = +6x - 3x^2$ and the fixed cost is Rs. 150. The cost function is
a. $8x + 6x^2 - 6x^3$ b. $\frac{8}{x} + 6 - 3x$
c. $8x + 3x^2 - x^3 + 150$
d. $8x + 3x^2 - x^3 - 150$
65. The area of the circle $x^2 + y^2 = 16$ is
a. 4π b. $4\pi^2$ c. $16\pi^2$ d. 16π
66. The following table gives the two kinds of food and two kinds of vitamin. If qty of $F_1 = x$, qty of $F_2 = y$ then formulate the following problem to minimizing the cost.

Vitamins	Food	
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	F_1	F_2	Daily Requirement
V_1	4	8	80
V_2	6	4	100
Cost per unit Food	Rs. 3	Rs. 5	

- a. $\min(z) = 3x+5y$ subject to $4x+8y \geq 80$, $6 + 4 \geq 100$
b. $\min(z) = 3x+5y$ subject to $4x+8y \leq 80$, $6 + 4 \leq 100$
c. $\min(z) = 3x+5y$ subject to $4x+6y \leq 80$, $8 + 4 \leq 100$
d. $\min(z) = 3x+5y$ subject to $4x+6y \geq 80$, $8 + 4 \geq 100$
67. Which is the measure of dispersion?
(a) mean (b) median
(c) mode (d) range
68. Two brothers: Mr. X and Mr. Y appear in an interview for getting the scholarship. The scholarship can be provided for two persons. The probability of getting scholarship by Mr. X is $\frac{1}{7}$ and getting by Mr. Y $\frac{1}{5}$ is . What is the probability that both of them will get scholarship?
a. $\frac{12}{35}$ b. $\frac{1}{35}$
c. $\frac{23}{35}$ d. none of these
69. The equation $\sin x + \cos x = 2$ has
a. infinite solution (b) finite solution
(c) no solution (d) unique solution
70. $\sin^{-1} x + \cos^{-1} x =$
a. $\frac{\pi}{x}$ b. $-\frac{\pi}{2}$ c. $\frac{\pi}{2} - x$ d. 1
71. The system of linear equations $2x + 3y = 5$ and $4x + 6x = 9$ are
(a) Consistent & dependent
(b) Consistent & independent
(c) Inconsistent & independent
(d) Inconsistent & dependent
72. The degree of polynomial equation $ax^2 + bx + c = 0$ is
(a) 0 (b) 1
(c) 2 (d) not define
73. If one root of a quadratic equation in the real coefficient is $\sqrt{2}$ then equation is
a. $x^2 + \sqrt{2}x + 2 = 0$ b. $x^2 + 2 = 0$
c. $x^2 - 2 = 0$ d. none of these

74. The equation $x^2 + y^2 = 0$ represent
 (a) circle (b) degenerate circle
 (c) an empty set (d) a straight line
75. If four quantities a, b, c and d are such that $a:b=3:4$, $b:c = 6:7$ and $c:d=8:9$, then the ratio between a and d is
 (a) 3:8 (b) 1:3
 (c) 4:7 (d) 7:4
76. By selling 175 pens, a stationary store gains the selling price of 50 pens. What is his gain percent?
 a. 40% b. $28\frac{4}{7}\%$
 c. 50% d. none of these
77. A, B, C and D enter into a partnership. A, B, C, subscribe $\frac{1}{3}, \frac{1}{4}, \frac{1}{5}$, of the capital respectively and D, the rest. What is the share of profit of D if the total profit is Rs. 24600?
 a. Rs. 8200 b. Rs. 5330
 c. Rs. 6150 d. Rs. 4920
78. If US \$1 = Rs. 78.15. How many US dollars are equivalent To Rs. 10,000?
 a. \$127.96 b. \$172.96
 c. \$ 196.72 d. \$172.62
79. The effective rate corresponding to 10% p.a. convertible quarterly is
 (a) 40% b. 10.1%
 (c) 10.4% (d) none of these
80. The present value of an immediate annuity is; where symbols are there usual meaning
 a. $\frac{P}{i} \{ (l+i)^n - l \}$ b. $\frac{P}{i} (l+i) \{ (l+i)^n - l \}$
 c. $\frac{P}{i} \left\{ l - \frac{1}{(l+i)^n} \right\}$ d. $\frac{P(l+i)}{i} \left\{ l - \frac{l}{(l+i)^n} \right\}$

General Knowledge + Logical Reasoning**(10 × 1 = 10)**

81. The study of sound and sound waves is called
 a. mechanical b. technical
 c. acoustics d. sound waves
82. A river always has
 a. delta b. fishes
 c. boats d. bank
83. Which is the international sports competition that is held only on Nepal?
 a. dandi b. elephant polo
 c. bhale judhai d. kabaddi
84. Which mountain is understood by killer mountain?
 a. manaslu b. ama dablum
 c. Cho Oyu d. kala patthar

85. Which of the following is understood by 'killer mountain'?
 a. school b. teacher
 c. text book d. clearing
86. Two concepts are related in some way; establish the same relationship on the basis of the alternatives given for UTS : FDC :: WVU : ?
 a. YWV (b) WXY
 (c) UVW (d) HGF
87. Insert the appropriate arithmetical signs in (?, ?) to establish the relation: $9 ? 6 ? 3 = 27$
 (a) +, × (b) -, + (c) ÷, + (d) +, ÷
88. If LIGHT is coded as GILTH, find the code for RAINY.
 (a) IARYN (b) ARINY
 (c) NAIRY (d) RINAY
89. A, B and C are intelligent, A, D and E are laborious, D, C and E are honest and A, B, and E are ambitious. Which of the following are not honest?
 (a) A and B (b) C and A
 (c) A and D (d) A and D
90. What is missing number in the given series below?

- (a) 17 (b) 27 (c) 35 (d) 41

IT general**(10 × 1 = 10)**

91. Which of following is not a search engine?
 (a) Google (b) Altavista
 (c) Yahoo (d) Firefox Mozilla
92. Name of the screen that recognizes touch input is :
 (a) Recog screen (b) Point Screen
 (c) Touch Screen (d) Android Screen
93. Arrange in ascending order the units of memory TB, KB, GB, MB
 (a) TB>MB>GB>KB
 (b) MB>GB>TB>KB
 (c) TB>GB>MB>KB
 (d) GB>MB>KB>TB
94. What is full form of WWW
 (a) World Wide Web
 (b) Wide World Web
 (c) Web Wide World
 (d) World Web Wide

95. Junk email is also called
 (a) Spam (b) Spoof
 (c) Sniffer (d) Jmail
96. Which of following is used to make presentation slides?
 (a) PowerPoint (b) Word
 (c) Excel (d) Internet
97. Who is father of computer?
 (a) Charles Babbage (b) Balise Pascal
 (c) Garden Moore (d) John Von Neumann
98. Which of following is used as a memory in computers?
 (a) RAM (b) Keyboard
 (c) Printer (d) Mouse
99. MS-Word is an example of
 (a) Operating System
 (b) Application Software
 (c) Output Device (d) Processing Device
100. The printed output from a computer is known as.....
 (a) Soft copy (b) Hard Copy
 (c) Photo Copy (d) Paper

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Attempt all questions:

Section: I

English (40 × 1 = 40)

1. Kabir was punched on nose.
 a. a b. an c. the d. no article
2. He'd better write a poem,?
 a. hadn't he b. wouldn't he
 c. would he d. had he
3. One of them very sick.
 a. were b. had
 c. was d. have
4. I hope it rain.
 a. won't b. has
 c. is d. wasn't
5. If I win, it be a dream come true.
 a. would be b. would have been
 c. will be d. be
6. He presents a report public health.
 a. at b. by
 c. about d. on
7. She says, "boiling water is hot."
 a. She said that boiling water is hot.
 b. She says that boiling water was hot.
 c. She says that boiling water is hot.
 d. She told that boiling water isn't hot.
8. I had the mechanics the brakes.
 a. check b. checked
 c. checks d. had checked
9. "Police have reported that he was a spy." Its reported speech is:
 a. It has been reported that he was a spy.
 b. It have reported that he was a spy.
 c. He has been reported to have been a spy.
 d. both a and c.
10. The reason I have come here is to meet your brother.
 a. whom b. that
 c. which d. why
11. I broke my leg playing football.
 a. while b. when
 c. however d. therefore
12. He does his work
 a. himself b. herself
 c. themselves d. himselfes

13. They brought as many pens as
a. I b. they
c. us d. she
14. The Synonyms of "agitate" is
a. agree b. disturb
c. angry d. cultivation
15. The antonyms of "Accessible" is
a. clear b. plain
c. hidden d. available
16. "On the ball" means:
a. Playing a ball b. Just Barely
c. Be sick d. Doing a good job
17. "Agree" takes the prefix
a. un b. dis
c. des d. mis
18. The patients are afflicted COVID.
a. from b. in
c. for d. with
19. If I a bird, I would fly in the sky.
a. were b. had have
c. am d. was
20. Let me do it,?
a. can you b. will you
c. shall we d. would you?
21. He issecond boy of our class.
a. an b. no article
c. a d. the
22. Man on the moon.
a. is walking b. walked
c. has walked d. walks
23. She me to clean her room.
a. gets b. has
c. made d. have
24. "Write a letter."
a. Let a letter be written.
b. You should write a letter.
c. May you write letter.
d. You are requested to write a letter.
25. Find out the correct spelling:
a. ebullient b. domainit
c. daepleoy d. sawanneiry
26. Fear of dogs is called
a. dogophobia b. cynophobia
c. rabiesophobia d. catoptophobia
27. Killing a king is called
a. kingicide b. chisticide
c. regicide d. hericide
28. How many syllables does the word "necessary" has?
a. 1 b. 2
c. 3 d. 4
29. "Is that your house?" has intonation
a. rising b. raising- falling
c. falling d. falling - rising
30. On which syllables of the word "photographics" does a stress occur?
a. 1 b. 2
c. 3 d. 4
31. One has to do it onself,?
a. hasn't one b. doesn't one
c. hasn't he d. does not one
32. All the furniture made of wood.
a. were b. have
c. are d. was
33. He speaks Spanish
a. well b. good
c. perfect d. fluently
34. The novelist and poet coming tomorrow.
a. will b. has been
c. are d. is
35. Which one is singular?
a. ova b. syllabi
c. data d. datum
36. Honesty is the best policy.
a. The b. a
c. no article d. an
37. Why did he have the tree?
a. to fell b. fall
c. falled d. fallen
38. If I For a zym, I would have been slim.
a. had gone b. go
c. gone d. will go
39. "He cut the trees". Is reported as
a. The trees were cut by him.
b. The trees are cut by him.
c. The trees is cut by him.
d. The trees was cut by him.
40. He said that he would visit her the following day. Its direct speech is.
a. He says, "I will visit her tomorrow."
b. He said, "I will visit her tomorrow."
c. He says, "I would visit her tomorrow."
d. He said, "I will visit her tomorrow".

Section - II**Mathematics (50X1=50)**

41. If $n(U) = 200, n(A) = 80, n(B) = 60$, What is the maximum value of $n(A \cup B) = ?$
a. 200 b. 40
c. 140 d. 110

42. $-1 \leq x \leq 11$ is equivalent to
 a. $|x - 5| \leq 6$ b. $|x + 2| \geq 3$
 c. $|5 - x| \geq 2$ d. $|5 - 2x| < 1$
43. Range of $y = x^2 - 4x + 5$ is
 a. $(-\infty, \infty)$ b. $(-\infty, 1]$
 c. $[1, \infty)$ d. $(-\infty, 1)$
44. Period of function of $\cos 2x$ is
 a. $\frac{\pi}{2}$ b. 1
 c. π d. $\frac{\pi}{4}$
45. If $\log_9 81 = x$ then x
 a. $\frac{1}{2}$ b. $\sqrt{2}$
 c. 1 d. 2
46. If $x = \log_a bc, y = \log_b ca, z = \log_c ab$ then
 $\frac{1}{x+1} + \frac{1}{y+1} + \frac{1}{z+1} =$
 a. 1 b. 0
 c. $\frac{1}{2}$ d. abc
47. $1.5 + 0.015 + 0.00015 + \dots$
 a. $\frac{15}{13}$ b. $\frac{50}{33}$
 c. $\frac{2}{3}$ d. sum doesn't exist
48. Value of $2^{\frac{1}{4}}, 4^{\frac{1}{8}}, 8^{\frac{1}{16}}, 16^{\frac{1}{32}}, \dots, \infty$ is
 a. 2 b. $\frac{1}{2}$
 b. -1 d. $\frac{3}{2}$
49. If $A = \begin{pmatrix} 2 & 2 \\ 1 & 1 \end{pmatrix}$ then $(A - 2I)(A - 3I) =$
 a. $\begin{pmatrix} 1 & 1 \\ 4 & 2 \end{pmatrix}$ b. $\begin{pmatrix} 1 & 1 \\ 2 & 4 \end{pmatrix}$
 c. $\begin{pmatrix} 1 & 4 \\ 1 & 2 \end{pmatrix}$ d. $\begin{pmatrix} 4 & 0 \\ 0 & 4 \end{pmatrix}$
50. The system of equations $kx - 2y = 0, x + 3y = 0$ have unique solution then
 a. $k = -\frac{2}{3}$ b. $k = 0$
 c. $k = \frac{2}{3}$ d. $k \neq -\frac{2}{3}$
51. If one root of $ax^2 + bx + c = 0$ be square of other then
 a. $b^3 + ac^2 + a^2c + 3abc = 0$
 b. $b^3 + a^2c + ac^2 = 3abc$
 c. $a^3 + bc^2 + b^2c - 3abc = 0$
 d. $a^3 + b^3 + c^3 - 3abc = 0$
52. The amplitude of $1 - i$ is
 a. 45° b. 135°
 c. 315° d. doesn't exist
53. The mean Properties between 4 & 16 is
 a. 4 b. 8
 c. 12 d. 5
54. A is 25% more efficient than B in working. If A takes 15 days less than B to complete a work. In how many days they can finish the work if they work together?
 a. $22\frac{5}{7}$ days b. $25\frac{5}{7}$ days
 c. $21\frac{7}{5}$ days d. $30\frac{5}{7}$ days
55. A plane left 30 minutes later than the scheduled time and in order to reach its destinations 1500 km always in time it has to increase its speed by 250 km/hr from its usual speed. What is its usual speed?
 a. 500 km/hr b. 600 km/hr
 c. 750 km/hr d. 100 km/hr
56. The present worth of Rs 2040 due 4 years hence reaching interest at 5% p.a is
 a. 1650.50 b. 1675.3
 c. Rs 1680 d. Rs. 1700
57. The interest rate doubles a sum in 10 year is
 a. 12% b. 11%
 c. 10% d. 9%
58. Profits in the partnership of Bikram, Bishal and Binita are shared in ratio 1:2:3. If Bikram share if profits is Rs. 300, what is Binita share?
 a. Rs. 150 b. Rs. 450
 c. Rs. 600 d. Rs. 900
59. If A and B are two independent events with $p(A) = \frac{2}{3}$ & $p(B) = \frac{3}{5}$ then $p(A \cup B) =$
 a. $\frac{6}{5}$ b. $\frac{5}{3}$
 c. $\frac{2}{5}$ d. $\frac{13}{15}$
60. For Negative skewness
 a. Mean > Mode > median
 b. Mean < median < Mode
 c. Median < mode < Mean
 d. Mode < mean < Median
61. HCF of $n!$, $(n+1)!$ And $(n+2)!$ Is
 a. $n!$ b. $(n+2)!$
 c. $(n+1)!$ d. $(n-1)!$
62. If $\tan^{-1} x + \tan^{-1} y + \tan^{-1} 2 = \frac{\pi}{2}$ then $xy + yz + zx =$
 a. 1 b. -1
 c. 0 d. π
63. Solution for $\sin \theta + \cos \theta = \sqrt{2}$ is
 a. $2n\pi \pm \frac{\pi}{4} + \frac{\pi}{3}$ b. $n\pi + \frac{\pi}{4} + (-1)^n \frac{\pi}{2}$
 c. $2n\pi + \frac{\pi}{4}$ d. $n\pi \pm \frac{\pi}{4}$
64. In any $\triangle ABC$, $2 \cos A \sin C = \sin B$ then $\triangle$ is
 a. Scalene b. Equilateral
 c. Isosceles d. right angled
65. For what value of 'K' points $(1, -1)$, $(\frac{k}{2}, \frac{k}{3})$ and $(4, 1)$ are collinear?
 a. $-\frac{3}{2}$ b. 3
 c. 2 d. $-\frac{5}{2}$
66. The distance between parallel lines $3x + 2y = 6$ and $3x + 2y = 12$ is
 a. $\frac{14}{5}$ b. $\frac{7}{2}$
 c. $-\frac{8}{\sqrt{13}}$ d. $\frac{6}{\sqrt{13}}$
67. Angles between the lines represented by $2x^2 - 7xy + 6y^2 = 0$ is
 a. $\tan^{-1}(\pm \frac{1}{8})$ b. $\tan^{-1}(\pm \frac{1}{7})$
 c. 45° d. 60°

68. Length of y-intercept made by circle $x^2 + y^2 - 8x + y - 20$ is

- a. 5
b. 9
c. 8
d. 6

69. Radius of circle $x^2 + y^2 + 2x + 3y + k = 0$ is $\frac{1}{2}$ then k=

- a. 2
b. -1
c. 3
d. 4

70. $\lim_{x \rightarrow 64} \frac{\sqrt[6]{x}-2}{\sqrt[3]{x}-4}$

- a. $\frac{1}{2}$
b. $\frac{3}{4}$
c. $\frac{2}{3}$
d. $\frac{1}{4}$

71. $\lim_{x \rightarrow 0} \frac{e^{\sin x} - 1}{x}$

- a. 0
b. 1
c. 2
d. $\log_e 2$

72. Every continuous function is

- a. increasing
b. decreasing
c. differentiable
d. not – differentiable

73. $\frac{d}{dx} \cos^{-1}(\sin x)$

- a. x
b. -1
c. $\frac{-\sin x}{\sqrt{1-\sin^2 x}}$
d. $\frac{\cos x}{\sqrt{1-\sin^2 x}}$

74. If $x^p y^q = (x + y)^{p+q}$ then $\frac{dy}{dx} =$

- a. $\frac{y}{x}$
b. $\frac{py}{qx}$
c. $\frac{x}{y}$
d. $\frac{x^2}{y^2}$

75. Derivatives of $\sin^{-1} x$ is

- a. $\sqrt{1-x^2}$
b. $\frac{1}{\sqrt{1-x^2}}$
c. $\frac{-1}{\sqrt{1-x^2}}$
d. $-\frac{1}{\sqrt{x^2-1}}$

76. At critical point, f(x) is

- a. increasing
b. decreasing
c. stationary
d. increasing & decreasing

77. $\int \cot x \, dx =$

- a. $\ln(\sec x) + c$
b. $\ln(\operatorname{cosec} x) + c$
c. $\ln(\sin x) + c$
d. $-\operatorname{cosec}^2 x + c$

78. $\int \frac{e^x - 1}{e^x + 1} \, dx$

- a. $e^x - \log(e^x + 1)$
b. $e^x + e^{-x}$
c. $e^x - \log(e^{-x} + 1)$
d. $2 \log \left(e^{\frac{x}{2}} + e^{-\frac{x}{2}} \right)$

79. $\int \log x \, dx$

- a. $\frac{1}{x}$
b. $x \log x - x$
c. e^x
d. $\frac{e^x}{x}$

80. Area of region bounded by curve $y^2 = 4ax$ and $x^2 = 4by$ is

- a. $\frac{4ab}{3}$
b. $\frac{8ab}{3}$
c. $\frac{16ab}{3}$
d. $\frac{2ab}{3}$

Section: III

Logical Reasoning and General Awareness (10 × 1 = 10)

81. Which organization is the watchdog of international trade?

- a. The World Bank
b. IMF
c. WTO
d. IFC

82. Which of the following country is the largest producer of tea?

- a. Thailand
b. India
c. USA
d. Germany

83. Which is the widest lake in the world?

- a. Superior
b. Caspian
c. Rara
d. Nochless

84. Who is known as 'father of history' in our country?

- a. Baburam Acharya
b. Baburam Bhattra
c. Kirk Patrick
d. Baburam Patrick

85. Asian Development Bank established in :

- a. 1966 AD
b. 1967AD
c. 1968 AD
d. 1969AD

86. Which of the following is situated at the highest altitude?

- a. Lhasa
b. Taipei
c. Simla
d. Thimpu

87. Earth Day is celebrated on

- a. 22 April
b. 15 March
c. 5 June
d. 7 December

88. Which is the most expensive city to live as an expatriate?

- a. Moscow
b. London
c. Tokyo
d. New York

89. Scientists of Queensland University, Australia have been developed vaccine to treat swine flue using

- a. Butterfly cell
b. Caterpillar cell
c. Human Cell
d. Monkey Cell

90. The 50-year-old musical superstar Michael Jackson had Grammy Awards in his name numbering to-

- a. 16
b. 15
c. 14
d. 13

Section – IV

General IT (10 × 1 = 10)

91. The disadvantage of dynamic RAM over static RAM is

- a. higher power consumption
b. variable speed

- c. need to refresh the capacitor charge every once in two milliseconds
d. higher bit density
92. Main storage is also called
a. Accumulator b. Control unit
c. Register unit d. Memory
93. Which printer is very commonly used for desk-top publishing?
a. Laser printer b. Ink-jet printer
c. Daisy wheel printer d. Dot-matrix printer
94. The no. of logical records in a physical record is
a. Group b. Blocking factor
c. Sector d. Field
95. Which of the following can store information in the form of microscopic pits on metal disks.
a. Laser disks b. Tape cassettes
c. RAM cartridge d. Punched cards
96. A storage system for small amounts of data is
a. Magnetic card b. Magnetic tape
c. Punched card d. Optical mark reader
97. Which is another name of functional language?
a. Machine
b. Application language
c. Low-level language
d. High level language
98. Computer monitor is also known as:
a. DVU b. UVD
c. VDU d. CCTV
99. The output shown on the computer monitor is called
a. VDU b. Hard copy
c. Soft copy d. Screen Copy
100. Which feature is used to make selected sentence to all Capital Letter or all small letters?
a. Change Letter b. Change Sentence
c. Change Case d. Change word

Tribhuvan University
Institute of Science and Technology
Bachelor of Information Technology (BIT)
Model Questions: 2078

Total Marks: 100

Time: 2 hrs.

Attempt all questions:

Section: I

English (40 × 1 = 40)

1. Once you signed the paper, you cannot go back.
a. in b. by
c. with d. out
2. The American living standard is
a. Higher than Nepal
b. The highest of Nepal.
c. Higher than that of Nepal
d. Highest than the Nepal.
3. Raj Bahadur is superiorPrakash.
a. Than b. to
c. from d. none
4. 'Heavy eyed' means
a. angry b. happy
c. sad d. sleepy
5. 'Don't move single hair' means
a. become angry
b. become sad
c. become firm
d. become violent
6. The passenger in the bus moving with high speed were frightened of the potential danger but the driver then that danger.
a. continued b. answer
c. suggested d. advised
7. I tried to convince him but it was surreptitious
a. furtive b. successful
c. non sense d. respectable
8. If I Knew I would never ask you about that
a. doing b. It was done
c. how to do d. to do
9. Before one enters into business, one should..... It carefully.
a. look over b. look into
c. look for d. look after
10. The meeting way held
a. on july 25 b. the july 25th

- c. at july 25th d. july the 25th
11. Amphibian can live bothwater andland
a. in, on b. on, on
c. in, in d. on, in
12. No soonerthan one of the engines caught fire.
a. we'd taken off b. had we taken off
c. we took off d. we'd took off
13. He has a bad habit of biting his nails,.....?
a. doesn't he b. hadn't he
c. don't he d. didn't he
14. Barking dogs seldom bite,.....?
a. don't they b. do they
c. didn't they d. did they
15. I still like her selfishness.
a. Because of b. since
c. although d. In spite of
16. He isEuropean
a. a b. an
c. the d. none
17. Did she get.....job she applied for ?
a. a b. an
c. the d. none
18. The exam paper wasn't too difficult but I Couldn't answer..... question 10.
a. a b. and
c. the d. none
19. She isLLB
a. a b. an
c. the d. None
20.cow from Australia are known for their domestic value.
a. A b. An
c. The d. None
21. He doesn't speaktherefore, he doesn't have any friends
a. much b. a few
c. a large number d. many
22. He deliverslectures that the classes are never boring.
a. so diligently prepared
b. as diligently prepared
c. such diligently prepared
d. such prepared diligently
23. Whose book is this it's
a. my brother
b. of my brother
c. of my brother's
d. my brother's
24. Saturday is a holiday forstudents.
a. we b. us
c. they d. me
25. I must gobefore the shops are closed.
a. shopping b. to shop
c. to shopping d. shop
26. He thanked me for what I.....
a. did b. have done
c. was doing d. had done
27. A great deal of thought has.....into the designing of the concert hall.
a. went b. gone
c. going d. been-gone
28. He ought to arrive,.....?
a. would he b. thought not he
c. shall he d. shouldn't he
29. If I were you ,Ithat coat. It is mush too expensive.
a. wouldn't buy b. won't buy
c. would buy d. don't buy
30. The policecoming to investigate.
a. is b. has
c. are d. was
31. She helped her brotherthe problem.
a. to solve b. solved
c. solving d. to solving
32. The word 'approximate' has the stress on thesyllable
a. third b. first
c. second d. fourth
33. The sentence shut your mouth has normally a.....intonation.
a. rising b. falling
c. falling and rising d. none of these
34. If a robberinto my house at night I'd throw something at him.
a. comes b. had come
c. came d. was coming
35. Everyone.....success in life.
a. yearn at b. yearn of
c. yearn for d. yearn with
36. He said to them, "Don't make a noise"
a. He told them that they don't make a noise.
b. He told them not to make a noise.
c. He told them to don't make a noise.
d. He told them that they didn't make a noise.
37. "Please don't go away, "she said.
a. She said to please not to go away.
b. She requested me not to go away.

- c. She begged me that I not go away.
d. She begged that to don't go away.
38. What does the word 'affable' mean?
a. Sociable b. aggravate
c. astute d. Stipulate
39. Which word is nearest in meaning to..... 'benevolent'?
a. Sinicure b. miser
c. generous d. stingy
40. The meaning of 'beget' is
a. to be the son of
b. to be the father of
c. to be the daughter of
d. to be friend of

Mathematics (40 x 1 = 40)

41. If the ratio of cost price and selling price of an article is 2:3 then
a. Profit % = 50%
b. loss % = 30%
c. Neither profit or loss
d. Profit % = $\frac{100}{3}$ %
42. $\lim_{n \rightarrow \infty} \frac{\sum n^2}{n^3} =$
a. 0 b. ∞ c. 2 d. $\frac{1}{3}$
43. $\lim_{x \rightarrow 1} (x-1) \tan \frac{\pi x}{2}$
a. $-\frac{2}{\pi}$ b. $\frac{\pi}{2}$ c. $-\frac{1}{2}$ d. $-\frac{1}{\pi}$
44. If $y = \sqrt{\frac{1+\cos 2x}{1-\cos 2x}}$ then $\frac{dy}{dx}$ at $x = \frac{\pi}{2}$
a. 0 b. 1
c. not defined d. -1
45. Derivative of $e^{\sqrt{x^2+a^2}}$ w.r. to $\sqrt{x^2+a^2}$
a. $e^{-\sqrt{x^2+a^2}}$ b. $\frac{e^{\sqrt{x^2+a^2}}}{2x}$
c. $\frac{xe^{\sqrt{x^2+a^2}}}{2\sqrt{x^2+a^2}}$ d. $e^{\sqrt{x^2+a^2}}$
46. If $a + b + c = 0$ in quadratic equation $ax^2 + bx + c = 0$ then roots of quadratic equation is
a. 1 and -2 b. 1 and $\frac{c}{a}$
c. $-\frac{b}{a}$ and $\frac{c}{a}$ d. 0 and 1
47. If $(m+n)^{th}$ term of a G.P is p and $(m-n)^{th}$ term is a then m^{th} term is
a. $\sqrt{pq}$ b. $\frac{p+q}{2}$
c. $\sqrt{(p+q)}$ d. pq

48. $(a+b-c)x^2 + (c+a-b)x + (b+c-a) = 0$ and $a+b+c=0$ and $a+b+c=0$ then roots quadratic equation, if a,b, and c are rational
a. rational b. irrational
c. imaginary d. Real and equal
49. The quadratic equation whose roots are $\frac{3}{5}$ times the roots of quadratic equation $x^2 - 8x + 7 = 0$
a. $25x^2 - 30x + 7 = 0$
b. $25x^2 - 120x + 63 = 0$
c. $25x^2 + 120x - 63 = 0$
d. none of these
50. $S_n = \frac{a(1-r^n)}{1-r}$, sum of geometric Progression is true if
a. $|r| > 1$ b. $|r| < 1$
c. $|r| = 1$ d. $|r^n| \leq 1$
51. Square roots of $(3+4i)$ are
a. $\pm(2+i)$ b. $\pm(3+i)$
c. $\pm(2-i)$ d. $\pm(3-i)$
52. $(1+i)^{100} + (1-i)^{100} =$
a. 0 b. -1
c. 1 d. i
53. The point of inflection of quadratic function is
a. always (1,0) b. always (0,0)
c. does not exist d. $(-\infty, 0)$
54. The area of triangle with vertices (1,2), (2,3) and (3,4) is
a. 0 sq. unit b. 1 sq. unit
c. 2 sq. unit d. 3 sq. unit
55. Centre of circle $x^2 + y^2 + 2gx + c = 0$ lies
a. In (I) quadrant b. In (II) Quadrant
c. On x- axis left of origin
d. On x- axis right of origin
56. The polar coordinate of point $(-1, -\sqrt{3})$ is
a. $(\frac{\pi}{3}, 2)$ b. $(2, \frac{\pi}{3})$
c. $(2, \frac{4\pi}{3})$ d. $(\frac{4\pi}{3}, 2)$
57. If the pair of lines represented by $ax^2 + 2hxy + by^2 + 2gx + 2fy + c = 0$ intersect at x-axis then
a. $abc + 2fgh = bg^2 + ch^2$
b. $abc + 2fgh = 0$
c. $abc + 2fgh = af^2 + ch^2$
d. $2fgh = bg^2 + ch^2$
58. $\int_{-1}^1 \sin^7 x \, dx =$
a. 6 b. -6 c. 0 d. -1

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a.192 b. 194 c.190 d.180

80. Probability of an event $E(x)$ is

- a. $1 \leq \varepsilon(x)$ b. $0 \leq p(\varepsilon) \leq 1$
c. $0 \leq p(\varepsilon)$ d. $-1 \leq p(\varepsilon) \leq 1$

Logical Reasoning & General Awareness
(10 x 1 = 10)

81. 2, 3, 5, 7, _____, 13

- a.9 b.6 c.8 d.11



82.  Total no. of Triangle is equal to

- a.11 b.12 c.9 d.8



83. a.64 b.16 c.49 d.36

84. If SUN=1, RAM=1, MADHU =2. In the same coding system UNIVERSITY=?

- a. 4 b.5 c.3 d.9

85. Rank of Hari from last is 49 and from start is 21 then total no. of student in class

- a. 68 b.70 c.71 d.69

86. Who is the most climbing person on Mount Everest?

- a. Kamirita Sherpa b. Sudarshan Gautam
c. Kami Rita Sherpa
d. Nawang Gombu Sherpa

87. When has the National Sports Council established?

- a. B.S. 2017 Mansir 20
b. B.S. 2018 Mansir 10
c. B.S. 2010 Poush20
d. B.S. 2017 Falgun 25

88. What is the recent SAARC summit sessions in Nepal?

- a. 3 b.11 c.17 d.18

89. How many days was the first amendment to the Interim Constitution 2063 issued in Nepal?

- a.30 days b.60 days
c.20 days d.45 days

90. Which is the highest snow source river in Nepal?

- a. Sun Koshi b. Dudh Koshi
c. Kali Gandaki d. Karnali

General IT (10 x 1 = 10)

91. Which is the part of the computer system that one can physically touch?

- a. data b. operating systems
c. hardware d. software

92. A is an electronic device that process data, converting it into information.

- a. computer b. processor
c. case d. stylus

93. Which of the following is not an example of an Operating System?

- a. Windows 98 b. BSD Unix
c. Microsoft Office XP d. Red Hat Linux

94. One Gigabyte is approximately equal is:

- a. 1000,000 bytes
b. 1000,000,000 bytes
c. 1000,000,000,000 bytes
d. None of these

95. Which of the following is not an input device?

- a. Mouse b. Light pen
c. Keyboard d. VDU

96. What type of process creates a smaller file that is faster to transfer over the internet?

- a. Compression b. Fragmentation
c. Encapsulation d. None of the above

97. Which of the following is an example of non-volatile memory?

- a. Cache memory b. RAM
c. ROM d. None of the above

98. File extensions are used in order to

- a. Name the file
b. Ensure the filename is not lost
c. Identify the file
d. Identify the file type

99. During the portion of the Information Processing Cycle, the computer acquires data from some source.

- a. processing b. storage
c. input d. output

100. bit stands for

- a. binary information term
b. binary digit
c. binary tree
d. Bivariate Theory

Tribhuvan University
Institute of Science and Technology
Bachelor of Information Technology (BIT)

Model Questions: 2079

Total Marks: 100

Time: 2 hrs.

Attempt all questions:

Section: I

Mathematics (40 × 1 = 40)

Mathematics

- Which is not a rational number?
a. 1 b. e c. 3 d. -1
- If A and B are the nonempty set and $ACBCU$ then $A \cap B =$
a. A b. B c. U d. A-B
- If $|x-1| \leq 5$ then $x =$
a. $\{-4, 6\}$ b. $(-4, 6)$ c. U d. $[-4, -6]$
- If $\log_a x = y$ then $x =$
a. y b. a c. a^y d. $1/y$
- If $f: \mathbb{R} \rightarrow \mathbb{R}$ R is defined by $f(x) = 3x-2$, for $x \in \mathbb{R}$ then the pre image of 10 in R is
a. 4 b. 10 c. 5 d. 0
- The domain of the function $f(x) = \sqrt{16-x^2}$ is
a. $(-4, 4]$ b. $[-4, 4]$ c. $(0, 4)$ d. $\{0, 5\}$
- A sentence $x+5=4$ is
a. false statement b. true statement
c. not a statement d. a statement
- The function $f(x) = \cos x$ is
a. an even function b. period function
c. an odd function d. neither even or odd
- If p, q and r are in G.P, then
a. $p+r=2q$ b. $q^2 < pr$
c. $q^2 < pr$ d. $q^2 = pr$
- If k+3, 4k+7 and 3k-1 are in AP then the sequence is
a. 7, 8, 9 b. 5, 7, 9
c. 7, 9, 11 d. 1, 3, 5
- If $\begin{bmatrix} 0 & 6 \\ 5+k & 0 \end{bmatrix}$ is a skew symmetric matrix then k=
a. -11 b. -5
c. 0 d. -6
12. The value of x for the determinant $\begin{bmatrix} x+3 & 0 \\ 1 & 1 \end{bmatrix} = 0$ is
a. 3 b. -3
c. 1 d. 0
- The value of $\sqrt{-8}\sqrt{-2}$ is
a. 16 b. 4 c. -4 d. 4i
- The modulus of $\frac{1+i}{1-i}$ is
a. 1 b. -2 c. $\sqrt{2}$ d. $1/\sqrt{2}$
- In a triangle ABC, if $a = 2\sqrt{3}$, $b = 2$, $c = 4$ then $A =$
a. 15° b. 30° c. 45° d. 60°
16. The perimeter 2s of the triangle ABC is
a. $a+b+c$ b. $(a+b+c)/R$
c. $2a+2b+2c$ d. $A+b+C$
- Area of the triangle ABC is
a. abc b. abc/R
c. $abc/4R$ d. $4R/abc$
- Equation of a line perpendicular to the line $x-3y+7=0$ is
a. $3x+y+10=0$ b. $2x-3y=10$
c. $-3x-y-10=0$ d. $x+3y=10$
- The two lines represented by $ax^2 + xy + by^2 = 0$ perpendicular to each other if
a. $a+b > 0$ b. $a+b < 0$
c. $ab=0$ d. $a+b=0$
- Equation of tangent at (0,1) to the circle $x^2 + y^2 = 1$ is
a. $x=1$ b. $y=1$
c. $x=0$ d. $y=-1$
- The focus of the parabola $y^2 = 4x$ is
a. (0,1) b. (1,0)
c. (0,0) d. (-1,0)
- If $\lim_{x \rightarrow 3} \frac{x^n - 3^n}{x - 3} = 27$, then $n =$
a. 3 b. 4
c. 9 d. 0
- $\lim_{x \rightarrow 0} \frac{\sin 3x}{x} =$
a. 1 b. 0
c. 0/0 d. 3
- The function $f(x) = \begin{cases} x^2-x \\ x-1 \end{cases}$ $x \neq 1$ k $x=1$ is continuous at $x=1$ for k=
a. 0 b. 2
c. 1 d. 0/0
- If $y = e^{ax^2+b}$ then $\frac{dy}{dx} =$
a. $ax^2 + b$ b. $2axy$
c. $2ax$ d. e^{ax^2+b}
- If $x^2 + y^2 = 25$ then $\frac{dy}{dx}$ at (0,5) is
a. 0 b. undefined
c. x/y d. $-x/y$
- The stationary point of the function $f(x) = x^2 - 6x + 3$ is $x =$

- a. 0 b. 3
c. -3 d. 6
28. $\int e^x (\log_e x) dx =$
a. $\log_e x + c$ b. $x^2 + c$
c. $\frac{x^2}{2} + c$ d. $e^x (\log_e x) + c$
29. $\int_0^1 \frac{2x}{x^2+2} dx =$
a. $\log_e \frac{2}{3}$ b. $\log_e \frac{3}{2}$
c. 0 d. 3
30. $\int 1/\cos^2 x dx =$
a. $\cot x + c$ b. $\cos x + c$
c. $\sec^2 x + c$ d. $\tan x + c$
31. Area bounded by the x-axis and the curve $y=x+2$ and the lines $x=0$ and $x=2$ is
a. -6 sq. units b. 2 sq. units
c. 4 sq. units d. 6 sq. units
32. The unit vector of $i+j$ is
a. $\frac{i}{\sqrt{2}} + \frac{j}{\sqrt{2}}$ b. $\frac{i}{\sqrt{2}} - \frac{j}{\sqrt{2}}$
c. $i-j$ d. 1
33. The direction of vector $v=ai+bj$ is
a. $\tan^{-1} \frac{a}{b}$ b. $\sin^{-1} \frac{a}{b}$
c. $\tan^{-1} \frac{b}{a}$ d. $\cos^{-1} \frac{a}{b}$
34. The probability of selecting a vowel from the English alphabet is
a. 1/26 b. 0
c. 1/5 d. 5/26
35. The standard deviation of the data: 5, 10, 15, 20 and 25 is
a. $5\sqrt{2}$ b. 5
c. $\sqrt{2}$ d. 10
36. The solution set of $3x + 5 > 2x + 1$ is
a. $x > 4$ b. $x > -4$
c. $x < -4$ d. $x \geq -4$
37. If $f(x) = 2x+1$ then the approximate value of $f'(2)$ with $h=0.1$ is
a. 5.1 b. 0
c. 2.0 d. 2.1
38. In a manufacturing company the production cost of 50 items is Rs 5000 in one day and Rs. 12000 to produce 150 items in one day. If x represents the number of items and y represents the cost, the model equation is
a. $y = 70x - 1500$ b. $y = 70x - 5000$
c. $y = -70x - 1500$ d. $y = 70x + 1500$
39. A company finds the variable cost of Rs .5 per unit output and fixed cost of Rs 25, where Q

is the number of outputs, then the total cost function, T is

- a. $T=5Q+25$ b. $T=25Q+5$
c. $T=5Q-25$ d. $T=25Q-5$
40. If a ball is projected vertically upwards with a velocity of 24.9 m/s, then the maximum height described by the ball is
a. 44 m b. 14.7 m
c. 78.4 m d. 44.1 m

English (40 × 1 = 40)

41. Pick out the word or group of words which has nearly the same meaning as the word "headstrong",
a. cruel b. flexible
c. stubborn d. soft
42. Pick out the word or group of words which has nearly the same meaning as the word "hallucination",
a. transparent b. delusion
c. hazy d. fixed
43. Pick out the word or group of words which has nearly the same meaning as the word "imperious"
a. arrogant b. docile
c. perfect d. faultless
44. Pick out the word or group of words which has nearly the same meaning as the word "truculent"
a. silent b. solid
c. calm d. aggressive
45. One who talks in sleep
a. pacifist b. bellicose
c. somnambulist d. somniloquent
46. False statement about a person made to damage his reputation
a. calumny b. offence
c. propaganda d. rumor
47. Literature of unreal stories
a. fiction b. parable
c. episode d. fable
48. The system of spelling in a language
a. etymology b. orthography
c. orthodoxy d. structure
49. Pick out the word or group of words which has nearly the opposite meaning as the word "tranquil"
a. serene b. agitated
c. static d. excited

50. Pick out the word or group of words which has nearly the opposite meaning as the word "spurious"
 a. false b. mutual
 c. genuine d. hypothetical
51. Pick out the word or group of words which has nearly the opposite meaning as the word "clamour"
 a. noisy b. verbal
 c. silence d. obscure
52. The art of letter writing
 a. epistemology b. lethography
 c. calligraphy d. epistolography
53. Morbid fear of horses
 a. mysophobia b. peccatophobia
 c. pyrophobia d. hippophobia
54. Choose correct prepositions for the given expression, "Johy died...blood cancer whereas his father died... the loss of blood."
 a. of, of b. of, from
 c. from, from d. on, of
55. Choose correct prepositions for the given expression "Divide these apples ... two children and let me divide the property ... my four sons."
 a. to, among b. between, among
 c. to, to d. among, between
56. Choose correct prepositions for the given expression "He loves being talked ... and this is the room I sleep ..."
 a. about, in b. on, in
 c. to, on d. on, on
57. Choose correct prepositions for the given expression "She spokea smile and expressed herself ... a sweet tone."
 a. about, in b. on, in
 c. to, on d. on, on
58. Choose correct prepositions for the given expression "Ramesh withdraws A contest as he very much trust.... The prediction of an astrologer."
 a. for, from b. Form, in
 c. in, in d. from, from
59. Choose correct prepositions for the given expression "The house is ..fire! and therefore send.. the fire brigade."
 a. on,on b. on, for
 c. for, on d. for,for
60. Pick up the correct phrasal verb for the expression: "The van...in front of me, so I had to break suddenly.
 a. pull round b. pull out
 c. pull up d. pull off
61. Pick up the correct phrasal verb for the expression:" Don't let yourself be.. by that lazy,selfish person.
 a. puf up b. put through
 c. put upon d. put out
62. Pick up the correct phrasal verb for the expression: "I made a few serious enquiries but nothing....it in the end."
 a. come in b. come into
 c. come of d. come off
63. Pick up the correct phrasal verb for the expression: "we are.....for a house in this area."
 a. looking at - b. looking for
 c. looking back d. Looking around
64. Pick up the correct phrasal verb for the expression: "The bus driver asked the passengers to....."
 a. move over b. move out
 c. move in d. move along
65. Give the exact meaning of the idiomatic expression" out in the cold "
 a. left ignored or neglected
 b. active and busy
 c. angry and dissatisfied
 d. in bad situation
66. Give the exact meaning of the idiomatic expression" across the board"
 a. affecting everyone
 b. better than usual
 c. against time
 d. correct and honest
67. Give the exact meaning of the idiomatic expression "the writing on the wall "
 a. unexpected and surprising
 b. impending danger or misfortune
 c. a lot of excitement
 d. fixed views and ideas
68. Give the exact meaning of the idiomatic expression" a high flyer"
 a. successful career
 b. a very ambitious person
 c. lively and cheerful
 d. superior aid arrogant

69. Find the meaning of the idiomatic expression "face the music"
 a. face friendly environment
 b. disregard or defy
 c. deal with unpleasant situation or criticism
 d. ready to face
70. He.....that he could speak five languages.
 a. submitted b. suggested
 c. boasted d. challenged
71. The firm.....its workers very well.
 a. regarded b. cared
 c. behaved d. treated
72. In some countries the trains.....like clockwork.
 a. travel b. speed
 c. go d. run
73. This is the.....chosen for the hospital complex to be built next year.
 a. area b. place
 c. locality d. site
74. We have lived in Kathmandu ever since we married.
 a. were b. had
 c. are d. have
75. Although they are not rich, they always wear...clothes.
 a. respectable b. respective
 c. respectful d. respected
76. One who is neither intelligent nor dull
 a. tolerable b. mediocre
 c. commoner d. diligent
77. Changing one's mind too quickly
 a. versatility b. vacillation
 c. flexibility d. Instability
78. A person who is scholarly and learned
 a. stoic b. ascetic
 c. erudite d. atheist
79. Pour oil in troubled waters
 a. instigate b. foment trouble
 c. calm a quarrel with soothing words
 d. add trouble
80. A government controlled by the rich
 a. oligarchy b. democracy
 c. aristocracy d. plutocracy Genera

Knowledge (G.K) and IT Related (20 × 1 = 20)

81. Firewall is used for
 a. Security b. Data transmission

- c. Authentication d. Monitoring
82. Which one of the following is not an operating system?
 a. Windows b. Linux
 c. C d. macOS
83. Which one of the following languages is used to develop web sites?
 a. HTML b. CSS
 c. JavaScript d. All of the above
84. Which one of the following is part of central processing unit?
 a. Mouse b. Keyboard
 c. Screen d. ALU
85. The amount of vertical space between lines of text in a document is called
 a. Double space b. Vertical spacing
 c. Line spacing d. Single space
86. Which one of the following is volatile memory?
 a. ROM b. RAM
 c. Disk d. All of the above
87. One kilobyte is equivalent to
 a. 1000 bits b. 1024 bits
 c. 2048 bits d. 8192 bits
88. Which one of the following software is used to make presentation slides?
 a. Word b. Excel
 c. Power Point d. Access
89. Which one of the following is first search engine?
 a. Google b. Yahoo
 c. Archie d. AltaVista
90. Which one of the following generation computers were developed using microprocessor technology?
 a. First b. Second
 c. Third d. Fourth
91. The gas used to extinguish fire is
 a. Carbon Monoxide
 b. Neon
 c. Nitrogen
 d. Carbon Dioxide
92. The largest portion of the human brain part is
 a. Cerebellum b. Midbrain
 c. Cerebrum d. Medulla Oblongata
93. The process of curing inflation by reducing money supply is called
 a. Cost-push inflation

- b. Demand-pull inflation
c. Disinflation
d. Reflation
94. In which country, the world's first baby with antibodies against the novel coronavirus is reported to be born?
a. India b. USA
c. China d. Brazil
95. Which country has banned construction of skyscrapers that are taller than 500 meters?
a. India b. China
c. Japan d. UAE
96. Which country has reported cases infected by highly contagious group of Norovirus?
a. China b. UK
c. Russia d. Italy
97. Which two countries launched the Joint Anti-Terrorist Exercise (JATE)- 21?
a. India and Japan
b. China and Pakistan
c. China and Afghanistan
d. India and Sri Lanka
98. What is the name given to small models of human organs that contain multiple cell types that behave similarly to the human body?
a. Body models b. Tissue Chips
c. Cell Models d. Tissue Genes
99. What is the name of the condition, in which human does not realize the drop in oxygen level and continue to perform normal activities?
a. Abdominal Aortic Aneurysm
b. Happy Hypoxia
c. Acute Flaccid Myelitis
d. Acinetobacter Infection
100. Which planet is named after a Roman god of Wealth and Agriculture?
a. Saturn b. Neptune
c. Jupiter d. Mercury

Purbanchal University
Gothgaun, Morang, Nepal
Faculty of Science and technology
Entrance Examination -2079
BIT/BCA

Time: 2:00 Hrs

Total Marks: 100

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

- The indirect speech of "The stranger said to me" where does this road go?" is.....
a. The stranger asked where the road went
b. The stranger asked me where the road went
c. The stranger asked where this road had gone
d. The stranger asked me where that road went
- The antonym of "a loof" is.....
a. Alone b. Ago
c. Sad d. Friendly
- I am making her..... The food as soon as possible.
a. Prepare b. Prepared
c. to prepare d. preparing
- The hunter is aimingtiger
a. on b. in
c. at d. to
- Which word doesn't belong to the group of other words?
a. Hotel b. House
c. Motel d. Inn
- Which expression is correct?
a. I am not sure when will he go
b. Can't you say why did she come here?
c. Do you know how is she?
d. I know whom she loves?
- He is all for.....pleasures.
a. Sensuous b. Sensual
c. Sensitive d. Sensible
- "Mind your own business", he said.....
a. Meekly b. Heavily
c. Sharply d. Clumsily
- Even after a long discussion, the committee couldn't reach adecision.
a. Cordial b. Joint
c. Unanimous d. Common

10. The successful use of antitoxins and serum has virtually eradicated the threat of malaria, yellow fever and other insect borne diseases. The underlined word means.....
 a. Improved b. Removed
 c. discovered d. announced
11. Many doctors are still general practitioners but the tendency is toward specialization in medicine. The underline word means.....
 a. rumor b. trend
 c. prejudice d. security
12. Deities is the plural form of.....
 a. deity b. deify
 c. diety d. deitie
13. If you asked a policeman he.....you the way.
 a. Will tell b. Would tell
 c. Told d. Tell
14. Rita made her friend
 a. Laughin b. To laugh
 c. Laugh d. Laughed
15. You and I are friends,.....?
 a. aren't we b. aren't I
 c. aren't you d. None of these
16.physical fitness can help you live longer , feel healthier and cope with life's problem.
 a. A b. AN
 c. The d. No article
17. The synonym of the word DEFER is....
 a. Postpone b. Indifferent
 c. Defy d. Differ
18. Which word is synonymous to KOWTOW?
 a. Illuminate b. Practice
 c. Blockhead d. Respect
19. My sister detests government jobs. The antonym of underline word is....
 a. Adores b. Approves
 c. Hates d. Interested
20. Jack is very courageous boy . Write the antonym of courageous.
 a. Frightened b. Cowardly
 c. Naughty d. Happy
21. You will pass the examyou study hard
 a. So that b. Because of
 c. Provided that d. If
22. I wish that Iearlier
 a. Could come b. Should come
 c. Came d. Had come
23. The declarationbe signed tomorrow on my condition.
 a. Will b. Going to
 c. Supposed d. May
24. Which of the followings is verb?
 a. Fraud b. Practice
 c. Custom d. clothe
25. Which of the following is noun?
 a. Heighten b. Abbreviate
 c. Ignorance d. Official
26. If A and B are non-intersecting and disjoint sets then $n(A \cup B)$ is equal to.....
 a. $n(A)$ b. $n(A) + (B)$
 c. $n(A)n(B)$ d. $n(B)$
27. If $x \leq y \leq 3$, then
 a. $(y - 2)(y - 3) \geq 0$
 b. $(y - 2)(y - 3) > 0$
 c. $(y - 2)(y - 3) \leq 0$
 d. $(y - 2)(y - 3) < 0$
28. The domain of the function $f(x) = \log(1 - x) + \sqrt{x^2 - 1}$ is.....
 a. $[-1, 1]$ b. $(1, \infty)$
 c. $(1, 0)$ d. $(-\infty, -1)$
29. If $f(x) = x^3 + \tan x$, then $f(x)$ is....
 a. Even function
 b. Odd function
 c. Power function
 d. None of these
30. $i + i^2 + i^3 + i^4$
 a. 0 b. 1 c. -1 d. i
31. The quadratic equation whose root are $\frac{1}{2}$ and $-\frac{1}{2}$
 a. $X^2 - 4 =$ b. $4x^2 - 1 = 0$
 c. $X^2 + 1 = 0$ d. $X^2 = 0$
32. The sum of series $5 + \frac{5}{2} + \frac{5}{4} + \dots$ is
 a. $\frac{1}{2}$ b. 10
 c. ∞ d. None of these
33. The angle of triangle in A.P and the least angle is 30° . the greatest angle in radian is...
 a. $\frac{\pi}{2}$ b. $\frac{\pi}{3}$
 c. $\frac{\pi}{4}$ d. π
34. The circum center of acute angle triangle
 a. inside triangle
 b. outside triangle
 c. on the one of side
 d. at one of the vertical

35. $\sin(270 - \theta) =$
 a. $-\cos \theta$ b. $\cos \theta$
 c. $\tan \theta$ d. $-\tan \theta$
36. The area of the triangle whose vertices are (1,2), (2,3) and (3,4)
 a. 0 b. 1
 c. 2 d. 1.5
37. The equation of the line making an angle of 135° with positive x-axis and cutting an intercept 3 from the negative y-axis is....
 a. $X + y = 0$ b. $X - y = 0$
 c. $X + y + 3 = 0$ d. $X + y - 3 = 0$
38. The pole of the line $y = mx + c$ with respect to parabola $y^2 = 4ax$ is
 a. $(\frac{c}{m}, \frac{2a}{m})$ b. $(-\frac{c}{m}, -\frac{2a}{m})$
 c. $(\frac{a^2m}{c}, \frac{a^2}{c})$ d. (m, c)
39. The differential coefficient of $\sin \theta$ with respect to $\cos \theta$ is...
 a. $\cot \theta$ b. $\cos \theta$
 c. $\sin \theta \cos \theta$ d. $-\cot \theta$
40. If A is a square matrix, then $(A+A^+)$ is a....
 a. Diagonal matrix
 b. Scalar matrix
 c. Skew-symmetric matrix
 d. Symmetric matrix
41. Which of the following devices provides the communication between a computer and the outer world?
 a. Compact b. I/O
 c. Drivers d. Storage
42. Which of the following are the input devices that enable direct data entry into a computer system from source documents?
 a. System Access devices
 b. Data acquiring devices
 c. Data retrieving devices
 d. Data scanning devices
43. Which of the following devices used for converting maps, pictures, and drawings into digital form for storage in computers?
 a. Image scanner b. Digitizer
 c. MICR d. Scanner
44. Which of the followings can access the server?
 a. Web client b. User
 c. Web browser d. Web server
45. Which of the following is known as the language made up of binary-coded instructions?
 a. High level b. BASIC
 c. C d. Machine
46. Which of the following packages allows individuals to use personal computers for storing and retrieving their personal information?
 a. Personal assistance package
 b. Graphics package
 c. Spreadsheet package
 d. Animation package
47. Which of the following is created when a user opens an account in the computer system?
 a. SFD b. MFD
 c. Subdirectory d. RFD
48. Which of the following is a technique that marked the beginning of computer communication?
 a. User environment
 b. Batch environment
 c. Time sharing
 d. Message passing
49. Which of the followings is a type of technique in which dumb terminals are connected to a central computer system?
 a. Time sharing
 b. Message passing
 c. Batch environment
 d. User environment
50. Which of the following services allows a user to log in to another computer somewhere on the internet?
 a. E-mail b. Use net
 c. Telnet d. FTP
51. Which software is used to open website?
 a. Ms office b. Google chrome
 c. Adobe acrobat d. Microsoft outlook
52. Which of the following produces the best quality graphics reproduction?
 a. Plotter b. Inkjet printer
 c. Laser printer d. Dot matrix printer
53. Magnetic disks are the most popular medium for
 a. Direct access b. Sequential access
 c. Both a and b d. None of these
54. The first web browser is...
 a. Opera b. Mosaic

- c. Netscape d. Internet explorer
55. What is the full form of BIOS?
a. Basic input output signal
b. Basic input output software
c. Basic input output system
d. Basic input output service
56.computers are often referred as Big iron
a. Super b. Mainframe
c. Mini d. Micro
57. Which device is best for firewall configuration?
a. Hub b. Switch
c. Bridge d. Router
58. Which of the following cables uses RJ45 connectors?
a. Shielded Twisted Pair Cable
b. Thick Co-axial Cable
c. Unshielded Twisted Pair Cable
d. Thin Co-axial Cable
59. A chip having 5000 transistors and other circuit elements and their associated circuits is known as...
a. ULSI chip b. VLSI chip
c. MSI chip d. LSI chip
60. Modem is used for
a. AC to DC Conversion
b. DC to AC Conversion
c. Modulation and demodulation
d. Supplying DC power
61. Which access method is used for obtaining a record from a cassette tape?
a. Direct b. Sequential
c. Random d. All of these
62.computer has been designed to be as compact as possible.
a. Mini b. Super
c. Micro d. Mainframe
63. $(617)_{10} = (\dots\dots\dots)_2$
a. 1001011001 b. 1001101001
c. 1011001111 d. 1100110011
64. $(101110100011)_2 = \dots\dots\dots$
a. $(6543)_8$ b. $(2929)_{10}$
c. $(BA3)_{16}$ d. none of these
65. The equivalent of highest five –digit binary number is....
a. $(99999)_{10}$ b. $(11111)_{10}$
c. $(32)_{10}$ d. $(31)_{10}$
66. The binary coded decimal (BCD) uses.....
a. 10 bits b. 8 bits
- c. 16 bits d. None of these
67. RAM is also called as
a. Virtual memory
b. Volatile memory
c. Non volatile memory
d. Cache memory
68. The Brain of any computer is
a. CPU b. ALU
c. Control unit d. Memory
69. UNIVAC stands for
a. Universal array computer
b. Universal Automatic Computer
c. Unique Automatic Computer
d. All of these above
70. From where we can change the name of an User Account?
a. Settings b. Computer name
c. Code panel d. Control panel
71. How can we bring 'My computer' icon on the desktop if it is not there?
a. From wallpaper b. From settings
c. From display properties
d. From explorer
72. Which one is an example of spreadsheet software?
a. Ms excel b. Ms word
c. Ms access d. Ms power point
73. The extension of a text file(i.e Notepad file) is
a. .text b. .tet
c. .txt d. .tft
74. Which software can be used for giving presentation (e. g. product demo)?
a. MS word b. MS excel
c. MS access d. MS Powerpoint
75. Which one is not an Image Editing software?
a. Photoshop b. Ms powerpoint
c. Corel Draw d. MS paint
76. In how many ways the letter 'SOLVING' can be rearranged to make 7 letter words such that none of the letters repeat?
a. 49 b. 7C7
c. 5040 d. None of these
77. 3 is 80% of what number?
a. 2.50 b. 3.00
c. 3.75 d. 3.50
78. In an equation, $\sqrt{96} \div \sqrt{k} = 2\sqrt{6}$; what value of k will satisfy the equation?
a. 2 b. 4 c. 6 d. 8

79. When a die is rolled, the probability of landing with 2 is?
a. $\frac{3}{6}$ b. $\frac{1}{6}$ c. $\frac{2}{6}$ d. $\frac{5}{6}$
80. If p, q and r are the three consecutive odd integers, which of the following statements is NOT true?
a. $P+q$ is an even integer
b. $P+q+r$ is an odd integer
c. $(p+r)/2$ is an even integer
d. $(p+q)/2$ is an even integer
81. Which one of the following is correct spelt word?
a. Affedevit b. Afidevit
c. Affidavit d. affidavit
82. The difference between a two- digit number is.....and the number obtained by interchanging the positions of its digits is 36. What is the sum of two digits of that number?
a. 24 b. 18
c. 12 d. None of these
83. Determine the missing terms in the sequence:42,40,38,35,33,31, 81,28,-----,---
a. 25,22 b. 25,23
c. 26,24 d. 26,22
84. The.....of private limited companies is in the hands of its directors.
a. Managers b. Administrators
c. Department d. Management
85. Light :Sun :heat:.....?
a. Electricity b. Moon
c. Fire d. Star
86. who built Rani Pokhari?
a. Pratap malla
b. Prithvi Narayan Shah
c. Mandev
d. Jayasthiti Malla
87. How many of the following numbers are divisible by 3 but not by 9? 2133, 2646, 3471, 4131, 5286, 5340, 6336, 7347, 8118, 9276
a. 4 b. 5 c. 6 d. 7
88. What is the hexadecimal equivalent of $(101010011101001)_2$?
a. A9D1 b. 9C85 c. 58C9 d. 1D9A
89. Which of the following is a meaningful sequence?
a. Child, Adolescent, Adult, Old, Infant
b. Adult, Adolescent, Old, Infant, Child
c. Old, Adult, Adolescent, Child, Infant
d. Infant, Child, Adult, Old, Adolescent
90. The first computer introduced in Nepal was
a. IBM1400 b. IBM1401
c. IBM1402 d. IBM 1403
91. The total of the age of Akshay, Binay and Amit is 80 years. What was the total of their ages three years ago?
a. 77 b. 71
c. 74 d. 72
92. In covering a distance of 30 km ,Abhay takes 2 hours more than Sameer . If Abhay doubles his speed then he would take 1 hour less than Sameer. Abhay's Speed is.....
a. 5 kmph b. 6kmph
c. 6.25kmph d. 7.5kmph
93. BRISTLE: BRUSH,.....?
a. Arm: leg b. Stage: curtain
c. Recline: chair d. Key: piano
94. Which natural disaster causes more deaths than any other?
a. Volcano b. Fire
c. Flooding d. Earthquakes
95. In which of the following areas do international environmental treaties exist?
a. Fisheries b. Whaling
c. Ocean pollution d. All of these
96. The average normal body temperature of a normal person is
a. 81.1°C b. 36.9°C
c. 36.9°F d. 98.6°C
97. Malaria is a disease which effects the.....
a. Heart b. Lungs
c. Spleen d. Kidney
98. Which of the following vitamins promotes healthy functioning of eyes in human beings ?
a. Vit B b. VitC
c. Vit A d. VitD
99. How many numbers between 11 and90 are divisible by 72?
a. 10 b. 11
c. 12 d. 13
100. The first highway in Nepal is
a. Tribhuwan Highway
b. Mahendra Highway
c. Prithivi Highway
d. B.P Highway

Tribhuvan University
Institute of Science and Technology
 Bachelor 's in Information Technology (BIT)
Entrance Examination
2080

(Attempt all questions)

Group A [Mathematics] ($50 \times 1 = 50$)

1. In the followings, the statement is
 a. give me a book b. $x - 2 = 10$
 c. Rara lake is in Pokhara d. $y > 0$
2. If $S = \{x: x \in \mathbb{R} \text{ and } x^2 + 4 = 0\}$ then the set S is
 a. singleton set b. $x - 2 = 10$
 c. $S = \{-2i, 2i\}$ d. $S = \emptyset$
3. The set is a collection of
 a. long rivers of Nepal
 b. longest rivers of Nepal
 c. tall plants in a garden
 d. nice books
4. $S = \{x: x \geq -2, x \in \mathbb{R}\}$ is represented by
 a. $[-2, \infty)$ b. $(-2, \infty)$
 c. $(\infty, -2]$ d. $[-2, \infty]$
5. $|x - 5| \leq 3$ has values of x =
 a. (2, 8) b. [2, 8]
 c. {-2, 8} d. {2, 8}
6. The ordered pair (a, b) for $(2a - 1, -3) = (1, b + 3)$ is
 a. (1, -6) b. [1, -6]
 c. {1, -6} d. [1, 6]
7. If a function $f: \mathbb{R} \rightarrow \mathbb{R}$ be defined by $f(x) = 2x + 5$ then the pre-image of 7 in $\mathbb{R}$ is
 a. 3 b. no pre-image
 c. 1 d. -2
8. The domain of the function $f: \mathbb{R} \rightarrow \mathbb{R}$ defined by $f(x) = \sqrt{1 - x^2}$ is
 a. [0, 1] b. {1, -1}
 c. [0, ∞) d. [-1, 1]
9. The base of an exponential function $y = a^x$ passing through (2, 4) is
 a. 4 b. 2
 c. 8 d. 1
10. $3^{2\log_3 x} =$
 a. $2x$ b. x
 c. x^2 d. $x/2$
11. The function $f(x) = x^2 - 2$ is
 a. an even function b. an odd number
 c. not a function d. neither odd nor even
12. A number which can be expressed in the form p/q , $q \neq 0$; p, q are integers, is called
 a. a rational number b. an integer number
 c. an irrational number
 d. a prime number
13. The sum of an infinite geometric sequence a, ak , ak^2 , ... exists if
 a. $k > 1$ b. $k > -1$
 c. $-1 \leq k \leq 1$ d. $-1 < k < 1$
14. If $2k + 1$, $3k + 2$ and $5k + 1$ are in A.P., then k =
 a. 2 b. 6 c. -8 d. 0
15. The matrix $\begin{bmatrix} 0 & 1 \\ -1 & 0 \end{bmatrix}$ is
 a. symmetric b. skew-symmetric
 c. unit d. none
16. If $A = \begin{bmatrix} -5 & 3 \\ 2 & -1 \end{bmatrix}$ then $A^{-1} =$
 a. $\begin{bmatrix} 5 & 3 \\ -2 & -1 \end{bmatrix}$ b. $\begin{bmatrix} -5 & -3 \\ -2 & 1 \end{bmatrix}$
 c. $\begin{bmatrix} 5 & 3 \\ 2 & 1 \end{bmatrix}$ d. $\begin{bmatrix} 1 & 3 \\ -2 & -5 \end{bmatrix}$
17. If $A = \begin{vmatrix} 2a + 1 & 1 \\ 3a & 2 \end{vmatrix} = 0$, then a =
 a. 0 b. 2 c. -2 d. 1
18. A square matrix A is said to be singular if
 a. $|A| > 0$ b. $|A| < 0$
 c. $|A| \neq 0$ d. $|A| = 0$
19. If the roots of the equation $px^2 + qx + r = 0$ are equal in magnitude but opposite in sign, then
 a. $p = 0$ b. $q = 0$
 c. $r = 0$ d. $p = q$
20. If the discriminant of the equation $x^2 + kx + 4 = 0$ is zero then k =
 a. ± 4 b. -4
 c. 4 d. 0
21. If i is the imaginary unit, then $\frac{1-i}{1+i} =$
 a. 1 b. -i
 c. i d. -1
22. The square roots of a complex number $5 + 12i$ is
 a. $\pm(3 + 2i)$ b. $\pm(2 + 3i)$
 c. $\pm(3 - 2i)$ d. $\pm(2 - 3i)$
23. $\sin(\cos^{-1}x) =$
 a. $\sqrt{1 + x^2}$ b. $\sin \theta$
 c. $\sqrt{1 - x^2}$ d. $x\sqrt{1 - x^2}$
24. The general solution of $4\sin^2 x = 1$, for $n \in \mathbb{Z}$ is
 a. $x = n\pi \pm \frac{\pi}{6}$ b. $x = n\pi \pm \frac{\pi}{4}$

- c. $x = n\pi \pm \frac{\pi}{3}$ d. $x = 2n\pi \pm \frac{\pi}{6}$
25. The slope of the line $px + qy + c = 0$, is
a. p b. q
c. p/q d. -p/q
26. If the length of the perpendicular from the point $(k, 2)$ to $3x - 4y + 6 = 0$, is 2, then $k =$
a. 8 b. 6
c. 4 d. 5
27. The homogeneous equation is
a. $ax^2 + bxy + c = 0$
b. $ax^2 + xy + by^2 = 0$
c. $ax^2 + bxy + by^2 + c = 0$
d. $x^2 + by^2 + y^3 = 0$
28. The two lines represented by $kx^2 + xy - y^2 = 0$, are perpendicular to each other if $k =$
a. 1 b. -1
c. 0 d. $k \neq 0$
29. The distance of the point $(1, 2, 3)$ from origin is
a. 1 b. 3
c. $\sqrt{14}$ d. 2
30. The direction ratios of the line AB joining the points $A(4, 5, 0)$ and $B(2, 3, 4)$ are
a. -2, 2, -4 b. 2, 2, -4
c. 2, 2, 4 d. -2, -2, -4
31. The direction of the vector $a\mathbf{i} + b\mathbf{j}$ is
a. $\tan^{-1}\left(-\frac{a}{b}\right)$ b. $\tan^{-1}\left(\frac{b}{a}\right)$
c. $\tan^{-1}\left(-\frac{b}{a}\right)$ d. none
32. The unit vector along $x\mathbf{i} - y\mathbf{j}$ is
a. $\frac{x\mathbf{i} - y\mathbf{j}}{\sqrt{x^2 - y^2}}$ b. $\frac{x\mathbf{i} - y\mathbf{j}}{\sqrt{x^2 + y^2}}$
c. $\frac{x\mathbf{i} - y\mathbf{j}}{x^2 + y^2}$ d. $\frac{x\mathbf{i} - y\mathbf{j}}{\sqrt{x^2 + y^2}}$
33. The standard deviation of 3, 6, 9, 12, 15 is
a. $3\sqrt{2}$ b. 12
c. $2\sqrt{3}$ d. 2
34. The probability of getting an ace of club or a king of spade from a pack of 52 cards is
a. $1/26$ b. $1/13$
c. $1/52$ d. $1/2$
35. If $\lim_{x \rightarrow a} \frac{x^4 - a^4}{x - a} = 256$, then $a =$
a. 5 b. 3 c. 4 d. 6
36. $\lim_{x \rightarrow 0} \frac{\tan 3x}{x} =$
a. 3 b. 0/0
c. 0 d. x
37. A function $f(x) = 2x + 1$ is continuous at $x = 1$, if
a. $\lim_{x \rightarrow 0} f(x) = 3$ b. $\lim_{x \rightarrow 1} f(x)$ exists
c. $\lim_{x \rightarrow 0} f(x) = f(1)$ d. none
38. If $y = e^{\sin x^2}$, then $\frac{dy}{dx} =$
a. $e^{\sin x^2}$ b. $2xy \cos x^2$
c. $2xe^{\sin x^2}$ d. $y \cos x^2$
39. If $y = x^3 - x^2$, then for $\frac{dy}{dx} = 0$, $x =$
a. 0, -2/3 b. 0, 3/2
c. 0, 3 d. 0, 2/3
40. The function $f(x) = 2x + 5$, on R is
a. decreasing b. stationary
c. increasing d. none
41. $\int \frac{dx}{ax + b} =$
a. $\frac{1}{a} \log |ax + b| + c$
b. $a \log |ax + b| + c$
c. $|\log(ax + b)| + c$
d. $\log |ax + b| + c$
42. $\int \frac{dx}{2 \cos^2 x \sin^2 x} =$
a. $2 \cot 2x + c$ b. $-2 \cot 2x + c$
c. $\cot 2x + c$ d. $-\cot 2x + c$
43. $\int_1^3 \frac{\sin(\ln t)}{t} dt =$
a. $\cos(\ln 3)$ b. $-\cos(\ln 3)$
c. $1 - \cos(\ln 3)$ d. $1 - \sin(\ln 3)$
44. The area under the curve $y = x^2$ bounded by the x axis and the ordinates $x = 1$ and $x = 4$ is
a. 21 b. $64/3$
c. 64 d. 7
45. The general formula for Newton-Raphson method is
a. $x_{n+1} = x_n - \frac{f'(x_n)}{f(x_n)}$
b. $x_{n+1} = x_n - \frac{f(x_n)}{f'(x_n)}$
c. $x_{n+1} = x_n + \frac{f'(x_n)}{f(x_n)}$
d. $x_{n+1} = x_{n+1} - \frac{f'(x_n)}{f(x_n)}$
46. The approximate value of $\int_0^2 x^2 dx$ using midpoint rule with one interval is
a. 4 b. 8
c. 2 d. 0
47. If three equal forces P, Q and R are acting at a point of rigid body are in equilibrium, then the angle between any two forces is
a. 120° b. 30°

- c. 60° d. none
48. A force equal to $4N$ acting vertically upwards is resolved into forces, one being horizontal and equal to $3N$. The magnitude of the other remaining force is
a. $7N$ b. $1N$
c. $2N$ d. $5N$
49. If the acceleration of a particle, starting from rest is $5m/sec^2$, then the velocity at the end of 3 seconds is
a. $8m/sec^2$ b. $15m/sec^2$
c. $5m/sec^2$ d. none
50. A stone is thrown vertically upwards with a velocity of $30m/sec$ from the top of a tower and hits the ground after 10 secs, then the height of the tower is,
a. $100\ m$ b. $300\ m$
c. $200\ m$ d. $50\ m$.
- Group B[English](50x1=50)**
51. Choose the word or group of words which is most nearly same in meaning as the word "woeful".
a. deplorable b. punishable
c. culpable d. shaky
52. Choose the word or group of words which is most nearly same in meaning as the word "rotund".
a. round b. plump
c. circular d. healthy
53. Choose the word or group of words which is most nearly same in meaning as the word "facetious".
a. sweet b. handsome
c. flippant d. charming
54. Choose the word or group of words which is most nearly same in meaning as the word "coagulate".
a. sweeten b. sharpen
c. mix up d. congeal
55. Choose the word or group of words which is most opposite to the meaning of the word "grotesque".
a. proportionate b. symmetrical
c. ugly d. congruous
56. Choose the word or group of words which is most opposite to the meaning of the word "erase".
a. drop b. delete
c. engrave d. defend
57. Choose the word or group of words which is most opposite to the meaning of the word "tranquil".
a. peaceful b. agitated
c. angry d. dull
58. Choose the word or group of words which is most opposite to the meaning of the word "spurious".
a. genuine b. duplicate
c. valid d. reliable
59. Give a single word to this expression: "fossils and other forms of early life"
a. paleontology b. pomology
c. philology d. teleology
60. Give a single word to this expression: "the study of life and habits of birds"
a. ornithology b. embryology
c. geology d. biology
61. Give a single word to this expression: "the subject that studies God and religion"
a. axiology b. theology
c. metaphysics d. epistemology
62. Give a single word to this expression: "a person who is commanding, haughty and arrogant"
a. eccentric b. imperious
c. garrulous d. amiable
63. Pick up the correct phrasal verb for the expression "the two friends....this afternoon".
a. fall on b. fall in
c. fall out d. fall upon
64. Pick up the correct phrasal verb for the expression "It is not easy to....rebellion".
a. put on b. put out
c. put down d. put up
65. Pick up the correct phrasal verb for the expression "Tom just ... and lets me do all the work."
a. sit out b. sit in
c. sit on d. sit back
66. Pick up the correct phrasal verb for the expression "everything will ... all right in the end".
a. work up b. work off
c. work on d. work out
67. Choose the appropriate meaning to the idiomatic expression "a flash in the pan".
a. a short lived success or enthusiasm
b. sudden fortune
c. successful life start

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| <p>d. new day in life</p> <p>68. Choose the appropriate meaning to the idiomatic expression "up and about".
a. rich once again
b. recovered and in good health
c. liked by everybody
d. purpose behind an action</p> <p>69. Choose the appropriate meaning to the idiomatic expression "the thrills and spills".
a. critical mind set
b. successful person
c. success and failures
d. new attempts</p> <p>70. Choose the appropriate meaning to the idiomatic expression "be out like a light"
a. fit and fine
b. feel great success
c. happy and healthy
d. fall quickly into a deep sleep</p> <p>71. Choose the appropriate meaning to the idiomatic expression "mind over matter".
a. overcome physical weakness by means of will power,
b. very conscious person
c. idealist person
d. ignore materiality</p> <p>72. Choose the appropriate preposition/s to fill up the blank spaces "she was fined....parking her car... a no parking area."
a. for, at b. for, in
c. by, with d. on, in</p> <p>73. Choose the appropriate preposition/s to fill up the blank spaces "a patient died... cancer whereas other sick person died... the loss of blood."
a. for, from b. by, by
c. of, from d. of, by</p> <p>74. Choose the appropriate preposition/s for the expression "while throwing the rubbish...the fire, he heard voices....the hedge".
a. at, on b. in, on
c. at, at d. in, over</p> <p>75. Choose the appropriate preposition/s to fill up the blank spaces "one must guard family members...any danger and live ...honest labour".
a. against, by b. for, by
c. by, by d. for, from</p> <p>76. Choose the appropriate preposition/s to fill up the blank spaces "I am in dire need ...money ...the treatment of my sick wife".</p> | <p>a. of, of b. of, for
c. for, for d. by, from</p> <p>77. The word "plutonium" gets its prime stress on :
a. 1st syllable b. 3rd syllable
c. 2nd syllable d. 4th syllable</p> <p>78. The word "cyber squatting" gets its prime stress on :
a. 4th syllable b. 2nd syllable
c. 3rd syllable d. 1st syllable</p> <p>79. The word "retractable" gets its prime stress on :
a. 1st syllable b. 2nd syllable
c. 3rd syllable d. 4th syllable</p> <p>80. Give similar meaning word to "bankruptcy".
a. insolvency b. corrupt
c. poverty d. economical</p> <p>81. Give a right meaning to the idiom "a baptism of fire".
a. start a new work
b. a difficult introduction to a new job or activity
c. very successful beginning
d. remarkable initiation</p> <p>82. Give a right meaning to the idiom "face the music".
a. ready for further action
b. bold and decisive
c. likes to dance
d. accept the criticism or punishment for one's own work</p> <p>83. Choose a correct conjunction for "he got the job... he had no suitable qualification".
a. although b. even
c. if d. in spite of</p> <p>84. Choose a correct conjunction for "he broke the window...he was angry....soon realized the mistake".
a. however, though b. because, but
c. in spite of, even d. when, despite of</p> <p>85. Choose a correct conjunction for "Kanu is illiterate he can read ...write a single word".
a. either, or b. if, even if
c. neither, nor d. for, but</p> <p>86. The suitcase was left outside and was.... away by someone.
a. takes b. taking
c. took d. taken</p> <p>87. On ...trip to Pokhara we visited several wonderful natural sites.</p> |
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| <p>a. our b. their
c. whose d. its</p> <p>88. The dog was killed by a lorry which wentit.
a. under b. over
c. through d. below</p> <p>89. The statue was ...heavy that a crane was brought to lift it.
a. too b. much
c. so d. very</p> <p>90. I put on warm clothes so that I might not....cold.
a. catch b. affect
c. take d. attack</p> <p>91. A short journey for pleasure is called.....
a. jaunt b. stroll
c. itinerary d. junta</p> <p>92. The state of not getting married is....
a. bachelor b. spinster
c. celibacy d. unmarried</p> <p>93. Gradual recovery from an illness is.....
a. amnesia b. hysteria
c. convalescence d. superannuating</p> <p>94. It is much easier to run...debt than to get out of it.
a. down b. out
c. for d. into</p> <p>95. Walking in the morning, I heard the....of thunder.
a. crackling b. rippling
c. clanking d. rumbling</p> <p>96. Which of the following is not used as a prefix in forming a word.
a. tyro - b. anti-
c. post- d. pre-</p> <p>97. The word "hearted" takes the prefix:
a. up b. down
c. over d. under</p> <p>98. John, who is wearing a white shirt, is my best friend. This is asentence.
a. simple b. compound
c. complex d. complex-compound</p> <p>99. The sentence "I saw a blackbird" has a ...tone.
a. falling b. rising
c. fall-rise d. none</p> <p>100. Belief in the existence of one God but without any religious dogma
a. Pantheism b. deism
c. theism d. henotheism</p> | <p>a. Data bus b. system bus
c. Address bus d. All of the above</p> <p>102. Which of the following is also known as flash memory?
a. ROM b. PROM
c. EPROM d. EEPROM</p> <p>103. Which of the following is based on separate storage and signal pathway?
a. Von-Neumann b. CISC
c. Harvard d. Queue</p> <p>104. 1000-100 binary subtraction is equivalent to.....
a. 900 b. 010
c. 100 d. 001</p> <p>105. Backberry is software.
a. System b. Application
c. Utility d. Control</p> <p>106. Which of the following is high level procedural language?
a. C++ b. Java
c. Python d. Fortran</p> <p>107. Which of the following is logical operator
a. & b. =
c. && d. ==</p> <p>108. Which of the following has smallest coverage?
a. WAN b. LAN
c. PAN d. MAN</p> <p>109. Which among the following is full duplex transmission?
a. Walkie-Talkie b. Bluetooth
c. Keyboard d. None of the above</p> <p>110. MAC stands for.....
a. Medium Act Control
b. Media Act Control
c. Medium Access Control
d. Media Access Control</p> <p>111. Which of the following is a component of cyber security?
a. AI b. Internet of Things
c. Data warehouse d. RSA</p> <p>112. Which among the following is not ethical hacker?
a. Black hat hacker
b. Gray hat hacker
c. Biased hat hacker
d. White hat hacker</p> <p>113. Which of the following is often used for automatic computation?
a. Hybrid b. Analog</p> |
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- Group C[Computer](50x1=50)**
101. Which bus is bidirectional?

c. Digital	d. All of the above	a. MAC	b. MS-DOS
114. Which of the following is the slowest memory?		c. Windows 10	d. Process Control
a. Hard disk	b. RAM	126. Which program runs first after booting the computer and loading the GUI?	
c. Cache	d. Register	a. Desktop Manager	b. File Manager
115. The CPU is given instructions and data through programs. The CPU then fetches the program and data from the memory and performs as per the given instructions and stores the result back to memory.		c. Windows Explorer	d. Authentication
a. Logical Operation		127. What will be the output of the following code snippet?	
b. Arithmetic Operation		<code>#include <stdio.h></code>	
c. Arithmetic and Logic operations		<code>int main() {</code>	
d. None of the above		<code>int a = 3, b = 5;</code>	
116. Which key on the keyboard can be used to view slide show?		<code>int t = a;</code>	
a. F1	b. F2	<code>a = b;</code>	
c. F5	d. F10	<code>b = t;</code>	
117. 1 PB (pentabyte) is equivalent to		<code>printf("%d %d", a, b);</code>	
a. 1024 KB	b. 1024 MB	<code>return 0;</code>	
c. 1024 GB	d. 1000 TB	<code>}</code>	
118. ASCII used bits to represent characters.		a. 35	b. 33
a. 8 Bits	b. 7 bits	c. 55	d. 53
c. 6 bits	d. 5 bits	128. Which of the following can read and render HTML web pages?	
119. The code for the character "a" belongs to..... ASCII code.		a. Server	b. Head Tak
a. 96	b. 97	c. Web Browser	d. Empty
c. 98	d. 99	129. Simple network management protocol uses which of the following port number	
120. Which of the following Binary numbers is equivalent to the decimal number 24?		a. 161	b. 162
a. 110111	b. 111111	c. 163	d. 164
c. 11000	d. 11001	130. Which of the following attributes defines the relationship between the current document and URL?	
121. The octal number system is called base-8 system as it has total eight digits		a. URL	b. REV
a. 1 to 8	b. 0 to 7	c. REL	d. UVL
c. 2 to 9	d. None of the above	131. How many sizes of headers are available in HTML by default?	
122. What else is a command interpreter called?		a. 1	b. 3
a. prompt	b. kernel	c. 5	d. 6
c. shell	d. command	132. Multimedia is also used for communications and presentations.	
123. What is the meaning of the Booting in the operating system?		a. Corporate	b. Company
a. Restarting computer		c. Communal	d. Commercial
b. Install the program		133. A heavy video in a WBT may not load because of poor	
c. To scan		a. Signal	b. KBPS
d. To turn off		c. Presentation	d. Bandwidth
124. What is bootstrapping called?		134. In which of the following, a person is constantly followed/chased by another person or group of several peoples?	
a. Cold boot	b. Cold hot boot	a. Phishing	b. Bulling
c. Cold hot strap	d. Hot boot	c. Stalking	d. Identity theft
125. Which of the following is an example of a Real Time Operating System?			

135. Which of the following refers to exploring the appropriate, ethical behaviors related to the online environment and digital media platform?
- Cyber Law
 - Cyber Ethics
 - Cyber Security
 - Cyber Safety
136. Code Red is a type of
- An Antivirus Program
 - A photo editing software
 - A computer virus
 - A video editing software
137. Which of the following statements is correct about the firewall?
- It is a device installed at the boundary of a company to prevent unauthorized physical access.
 - It is a device installed at the boundary of incorporation to protect it against unauthorized access.
 - It is a kind of wall built to prevent files from damaging the corporate.
 - None of the above.
138. Which of the following is a type of independent malicious program that never requires any host program?
- Trojan Horse
 - Worm
 - Trap Door
 - Virus
139. How many AND gates are required to realize $Y = CD + EF + G$?
- 4
 - 5
 - 3
 - 2
140. How many two-input AND gates and two input OR gates are required to realize $Y = BD + CE + AB$?
- 3, 2
 - 4, 2
 - 1, 1
 - 2, 3
141. What is the color code of blue color in html?
- #ff0000
 - #00ff00
 - #0000ff
 - Ff00ff
142. Which of the following tag is not valid in HTML5?
- <<l> tag
 - <s> tag
 - <p>
 - <e>
143. A hacker contacts your phone or e-mail and attempts to acquire your password is called
- spamming
 - spoofing
 - phishing
 - hamming
144. Which of the following is De Morgan's law in Boolean algebra?
- $A + B = B + A$
 - $A + (A.B) = A$
 - $(A + B) + C = A + (B + C)$
 - $A.(B + C) = A.B + A.C$
145. Which of the following is absorption law in Boolean algebra?
- $(A')' = A$
 - $A + (A.B) = A$
 - $(A + B) + C = A + (B + C)$
 - $(A + B)' = A'.B'$
146. Which one is an example of identity law?
- $a + 0 = 0 + a = a$
 - $1 + a = a + 1 = 1$
 - $ab = ba$
 - $a + (b + c) = (a + b) + c$
147. Which of the following is the correct IPv4 address?
- 124.201.3.1.52
 - 01.200.128.123
 - 300.142.210.64
 - 128.64.0.0
148. Which of the following is defined as an attempt to steal, spy, damage or destroy computer systems, networks, or their associated information?
- Cyber attack
 - Computer security
 - Cryptography
 - Digital hacking
149. Where did the term "hacker" originate?
- MIT
 - New York University
 - Harvard University
 - Bell's Lab
150. Which of the following is an open source software?
- Unix
 - Linux
 - Windows
 - MS word