

NATIONAL ACADEMY OF SCIENCE AND TECHNOLOGY

(Affiliated to Pokhara University)

**Bachelor of Computer Application (BCA)**

**Entrance Examination**

**FULL MARKS: 100**

**TIME: 2.5 Hrs.**

**INSTRUCTIONS**

1. Check carefully the entrance booklet immediately after you receive it and be ensured that it does not have any unprinted or torn or missing pages or items etc. if so, get it replaced from your invigilator with a complete one.
2. For each question, there are four alternative responses given. Select only one response (even in the cases where you feel that there is more than one correct response)
3. **Choose the correct answer and tick (√) on the attached Answer Sheet. All questions carry equal marks.**
4. Keep your cellular phone completely switched off during the examination.
5. All rough work to be done only on blank sheet of question paper
6. Any candidate found violating the instructions and receiving/giving any form of help will be disqualified from the entrance examination.

Name of Student:.....

Entrance Roll Number:.....

Program:.....

-----  
Signature of Invigilator

---

## Mathematics

---

1. Let a set be A, then  $A \cap \phi$  and  $A \cup \phi$  are respectively,  
a)  $\phi, \phi$       b)  $\phi, A$       c)  $A, \phi$       d)  $A, A$
2. The value of  $\log_2 16$  is  
a) 2      b) 3      c) 4      d) 5
3. The value of  $27^{\frac{4}{3}}$  is  
a) 75      b) 81      c) 85      d) 90
4. The number of ways arranging the letters of the word "BOOK" are  
a) 36      b) 20      c) 15      d) 12
5. A man spends 70% of his income and saves Rs.2550. What is his income ?  
a) Rs.7600      b) Rs.7800      c) Rs.8300      d) Rs.8500
6. If  $x + y = 6$  and  $xy = 7$ , then the value of  $x^3 + y^3$  is  
a) 30      b) 45      c) 75      d) 90
7. The solution of  $|3 - x| \leq 1$   
a)  $-2 \leq x \leq 1$       b)  $2 \leq x \leq 3$       c)  $2 \leq x < 4$       d)  $2 \leq x \leq 4$
8. If A be any square matrix, then which of following is true ?  
a)  $AI = I$       b)  $AI = -A$       c)  $AI = A$       d)  $AI = O$
9. An article was sold for Rs.415 at a loss of 17% on the cost price . Find its cost price.  
a) Rs.500      b) Rs.480      c) Rs.600      d) Rs.460
10. Three coins are tossed simultaneously. Find the probability of getting three head.  
a)  $\frac{1}{2}$       b)  $\frac{1}{3}$       c)  $\frac{1}{4}$       d)  $\frac{1}{8}$
11. LCM of  $x^2 + 5x + 6$  and  $x^2 - x - 6$  is  
a)  $x + 2$       c)  $x + 3$   
b)  $(x^2 - 9)(x + 2)$       d)  $(x + 3)^2(x - 2)$
12. The value of  $\frac{3^{m+1} + 3^m}{3^{m+3} - 3^{m+1}}$   
a)  $\frac{1}{3}$       b)  $\frac{1}{6}$       c)  $\frac{1}{8}$       d)  $\frac{1}{12}$
13. Which of the following is measure of central value?  
a) Median      b) Mean deviation  
b) Standard deviation      d) none

14. The value of  $\int \frac{x}{1+x^2} dx$  is  
a)  $\log\sqrt{1+x^2} + C$       b)  $1 + x^2 + C$   
c)  $\log x - x + C$       d)  $1 - x^2 + C$
15. The differential coefficient of  $x \log x$  is  
a)  $\log x$       b)  $\frac{1}{x}$       c)  $1 + \log x$       d)  $x(1 + \log x)$
16. The value of the  $\lim_{x \rightarrow \infty} \frac{4x^3 - 5x^2 + 5}{2x^3 - 16}$  is  
a) 5      b) 4      c) 2      d) 0
17. If  $m + \frac{1}{m} = 3$  then the value of  $\frac{24m}{m^2+1}$  is  
a) 8      b) 24      c) 27      d) 45
18. In how many ways 5 students can be selected out of 10 students?  
a) 102      b) 205      c) 252      d) 750
19. How many numbers between 15 and 35 are prime number?  
a) 5      b) 7      c) 10      d) 12
20. If 4, x and 16 are in continued proportion, then the value of x is  
a) 8      b) 12      c) 16      d) 18

---

## English

---

### A. Choose the correct expression for the following statements. [For Q.N 21-35]

21. To let the grass grow under one's feet  
a) To take advantage of situation      c) To work cautiously  
b) To work on a job below the dignity      d) To idle away time
22. To come off with flying colors  
a) A good start  
b) To achieve distinction  
c) Good result of constant effort  
d) To attend grand party
23. The time is running out, you must look sharp  
a) Be punctual      c) Be sensible  
b) Be careful      d) Make haste
24. The speaker gave a bird's eye view of the political conditions in the country  
a) A biased view      c) a general view  
b) A personal view      d) a detailed presentation







86. Cyber law of Nepal was formed in:  
 a) 2063                      b) 2059                      c) 2067                      d) 2070
87. Which is the early calculating device in computing field?  
 a) Abacus                      b) Napier Bone                      c) Mark I                      d) ABC
88. The multimedia system includes:  
 a) Audio                      b) video                      c) images                      d) all of the above
89. The first computer introduced in Nepal was  
 a) IBM 1400                      c) IBM 1401  
 b) IBM 1402                      d) IBM 1403
90. Which is not an Operating System:  
 c) Windows                      c) Linux  
 d) Microsoft Word                      d) Unix
91. The world Trade organization (WTO), which replaced the GATT came into effect from \_\_\_\_\_  
 a. 1<sup>ST</sup> January 1991                      c. 1<sup>st</sup> January 1995  
 b. 1<sup>st</sup> April 1994                      d. 1<sup>st</sup> May 1995
92. Goodwill is most appropriately classed as  
 a. a fixed asset                      c. an intangible asset  
 b. a fictitious liability                      d. a semi-fixed asset
93. The accounting concept that dictates that fixed assets should be valued at cost less accumulated depreciation, rather than their enforced saleable value, is the  
 a. Net realizable value concept.                      c. Prudence Concept  
 b. Realization Concept                      d. Going Concern Concept
94. In times of rising pricing, the historical cost convention:  
 a. Understates assets values and profits  
 b. Understates assets values and overstates profits  
 c. Overstates assets values and profits  
 d. Overstates assets values and understates profits
95. A 'true and fair view' is one that:  
 a. presents the accounts in such a way as to exclude errors that would affect the actions of those reading them  
 b. occurs when the accounts have been audited  
 c. shows the accounts of an organization in an understandable format  
 d. shows the assets on the balance sheet at their current market price
96. An income and expenditure account is  
 a. a summary of the cash and bank transactions for a period  
 b. another name for a receipts and payments account  
 c. similar to a profit and loss account in reflecting revenue earned and expenses  
 d. incurred during a period
97. Goods withdrawn by proprietor for his personal use are entered into the books of accounts as:  
 a. Dr Drawings Cr Purchases  
 b. Dr Purchases Cr Drawings  
 c. Dr Capital Cr Drawings  
 d. Dr Purchases Cr Sales
98. The 'accounting equation' can be rewritten as:  
 a. assets plus profit less drawings less liabilities equals closing capital  
 b. assets plus liabilities less drawings equals opening capital plus profit  
 c. assets less liabilities less opening capital plus drawings equals profit  
 d. opening capital plus profit less drawings less liabilities equals assets
99. The accounting equation can change as a result of certain transactions. Which one of the following transactions would not affect the accounting equation?  
 a. Selling goods more than their cost  
 b. Purchasing a fixed asset on credit  
 c. The owner withdrawing cash  
 d. Debtors paying their accounts in full, in cash
100. Which one of the following is not a profit-making organization?  
 a) Partnership  
 b) Local government  
 c) Sole trader  
 d) Limited company