

E 2570

(Pages : 2)

Reg. No.....

Name.....

B.C.A. DEGREE (C.B.C.S.S.) EXAMINATION, NOVEMBER 2015

First Semester

Core Course—INTRODUCTION TO COMPUTERS

(2013 Admission onwards)

Time : Three Hours

Maximum : 80 Marks

Part A

*Answer all questions.
1 mark each.*

1. Define data.
2. What is machine language ?
3. What are the benefits of a mouse ?
4. Define resolution.
5. What is volatile memory ?
6. What is control unit ?
7. Write any two popular text codes.
8. What is a browser ?
9. What is URL ?
10. What is MIDI ?

(10 × 1 = 10)

Part B

*Answer any **eight** of the following.
2 marks each.*

11. What are the characteristics of a computer ?
12. What are the third generation languages ?
13. What are bar code readers ?
14. What is a register ?
15. What is cache memory ?
16. What are tape drives ?
17. What are the different CD technologies ?
18. What is an operating system ?
19. Compare DOS and windows.
20. What is MAN ?

Turn over

- 21. What are hyperlinks ?
- 22. Define multimedia.

(8 × 2 = 16)

Part C

*Answer any six of the following.
4 marks each.*

- 23. List the different types of a computer. Explain.
- 24. Discuss variants of mouse.
- 25. Write notes on hand held devices.
- 26. Explain solid state storage devices.
- 27. Explain the major features of Internet.
- 28. Discuss CPU.
- 29. Discuss CRT, with diagram.
- 30. Explain primary memory.
- 31. Write short notes on computer languages.

(6 × 4 = 24)

Part D

*Answer any two of the following.
15 marks each.*

- 32. Explain the different types of printers.
- 33. With suitable diagram, explain hard disks.
- 34. Explain the different types of desktop operating system.
- 35. Write notes on :
 - (a) Parts of a computer.
 - (b) Multimedia.

(2 × 15 = 30)

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(Pages : 3)

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B.C.A. DEGREE (C.B.C.S.S.) EXAMINATION, NOVEMBER 2015

First Semester

Complementary Course—BASIC STATISTICS

(2013 Admission onwards)

Time : Three Hours

Maximum : 80 Marks

Part A

*Answer all questions.
Each question carries 1 mark.*

1. What is raw data ?
2. Define statistical variable.
3. What is meant by stratum ?
4. Write down one demerit of median.
5. Define mode.
6. Define random variable.
7. Write the classical definition of probability.
8. What is meant by complement of an event ?
9. Define mathematical expectation of a random variable.
10. Define M.G.F. of a random variable.

(10 × 1 = 10)

Part B

*Answer any eight questions.
Each question carries 2 marks.*

11. Mention any two limitations of sampling.
12. What is meant by histogram ?
13. What are the uses of classification ?
14. What is weighted arithmetic mean ?
15. Distinguish between absolute and relative measures of dispersion.
16. For a distribution variance = 400 and coefficient of variation = 50 %. Find arithmetic mean.

Turn over

17. State addition theorem in probability for two events. Deduce it for three events.
18. $P(A) = 0.4$, $P(B) = 0.5$ find $P(A \cup B)$ if A and B are independent.
19. Explain distribution function of a random variable.
20. Find k if $f(x) = 2k$; $x = 1, 2, 3, 4, 5$ and $f(x) = 0$ elsewhere is a p.d.f.
21. What are the properties of m.g.f.?
22. What are moments? Mention any one use of it.

(8 × 2 = 16)

Part C

Answer any six questions.
Each question carries 4 marks.

23. What are the essentials of a good questionnaire?
24. What are the uses of graphical representation of statistical data? Discuss its limitations.
25. Calculate the standard deviation of the values 7, 11, 4, 5, 0, 8, 13. Also find its coefficient of variation.
26. Find the first three moments of the following distribution about zero:
- | | | | | | |
|-------|--------|---------|---------|---------|---------|
| x : | 5 - 15 | 15 - 25 | 25 - 35 | 35 - 45 | 45 - 55 |
| f : | 2 | 7 | 14 | 6 | 1 |
- Hence find the first three central moments.
27. The odds in favour of three political candidates A, B, C in an election are respectively 3 to 5, 2 to 7 and 5 to 9. Find the probability that (i) all win; (ii) none wins; (iii) at least two of them win in the election. (Assume that they contest in different states).
28. A bag contains 5 white and 3 black balls. Another bag contains 4 white and 7 black balls. A ball is randomly drawn from one of the bags and found to be black. What is the probability that it is from the first bag?
29. Find C if $f(x) = C \cdot \left(\frac{1}{3}\right)^{x+1}$; $x = 0, 1, 2, \dots$ is a p.d.f. Also find $P(1 < X \leq 4)$.
30. Find the m.g.f. of X if its p.d.f. is $f(x) = \frac{1}{\theta}$; $0 < x < \theta$. Find its mean and variance from the m.g.f.
31. State and prove Baye's theorem.

(6 × 4 = 24)

Part D

Answer any two questions.
Each question carries 15 marks.

32. Draw the Ogives for the data:

Class	: 0 - 40	40 - 80	80 - 120	120 - 160	160 - 200	200 - 240	240 - 280
Frequency	: 9	16	28	41	49	32	15

and find (a) median; (b) 4th decile and the 65th percentile.

33. (a) What do you mean by mean deviation? Discuss its relative merits over quartile deviation and demerits when compared for standard deviation.
- (b) Find the mean deviation of the following values from median:
- 73, 18, 24, 33, 61, 9, 48.
34. (a) Explain statistical regularity. How it leads to the frequency approach of probability.
- (b) Write down the sample space of throwing of two coins and a die.
35. If $f(x) = \frac{1}{K} e^{-|x|}$ $-\infty < x < \infty$ is the p.d.f. of a random variable find k , mean and variance. Find the p.d.f. of $Y = X^2$.

(2 × 15 = 30)