## B.Sc. DEGREE EXAMINATION - JUNE 2008.

(AY 2007-08 onwards)

First Year<br>Mathematics with Computer Applications<br>COMPUTER FUNDAMENTALS AND PC SOFTWARE

Time : 3 hours
Maximum marks : 75
SECTION A - (5 $\times 5=25$ marks $)$
Answer any FIVE questions.

1. How communication is happen inside computer.
2. Describe pipelining.
3. Write a brief history about Evolution of operating system.
4. Explain the communication mode.
5. What are the uses of Task Bar features?
6. How to create a user profile?
7. How to protecting a document?
8. Explain the Clip art in Power Point.

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\text { SECTION B - }(5 \times 10=50 \text { marks })
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Answer any FIVE questions.
9. Discuss the Parallel Processing.
10. Discuss the synchronous and asynchronous transmission.
11. Discuss the Disk Drive Utilities.
12. Briefly explain about WordPad.
13. Discuss the Folders operations.
14. Discuss the Recycle Bin.
15. Explain the proofing tools in Word.
16. Discuss the drawing in PowerPoint.

B.Sc. DEGREE EXAMINATION - JULY 2008.

First Year

Mathematics with Computer Applications

COMPUTER FUNDAMENTALS AND PC SOFTWARE

Time : 3 hours
Maximum marks: 75

PART A $-(5 \times 5=25$ marks $)$

Answer any FIVE questions.
17. Define classification of computer.
18. Describe any four input devices with examples.
19. Explain the four types of languages.
20. Explain ASCII code.
21. How to set a desktop themes in Win98?
22. Explain How to hide and display the files.
23. How to insert and delete a column in a table?
24. How to preview a slide in a power point?

PART B- $(5 \times 10=50$ marks $)$
Answer any FIVE questions.
25. Explain the Magnetic memory with examples.
26. Define ISDN. Explain the principles of ISDN.
27. Explain the Elements of Windows.
28. Explain briefly about backups in Win98.
29. Explain the principles of Shortcuts.
30. How Internet connection is made using dial-up networking?
31. Explain the text formatting in MS-Word.
32. Explain how charts and graphs are working in PowerPoint.

B.Sc. DEGREE EXAMINATION - JUNE 2008.
(BMS-11 : AY 2006-2007 onwards
BMC-11 : AY 2007-2008 onwards)
First Year
Mathematics/Mathematics with Computer Applications ELEMENTS OF CALCULUS

Time : 3 hours
Maximum marks: 75
SECTION A - ( $5 \times 5=25$ marks $)$
Answer any FIVE questions.
33. Find the $n^{\text {th }}$ derivative of $\cos ^{4} x$.
34. If $u=\log \left(x^{2}+y^{2}+z^{2}\right)$, prove that

$$
\frac{\partial^{2} u}{\partial x^{2}}+\frac{\partial^{2} u}{\partial y^{2}}+\frac{\partial^{2} u}{\partial z^{2}}=\frac{4}{x^{2}+y^{2}+z^{2}} .
$$

35. Find the envelope of the family of straight lines $y=m x-2 a m-a m^{3}$, where $m$ is the parameter.
36. Evaluate $\int x^{2} \sin 2 x d x$ by using Bernoulli's formula.
37. Evaluate $\int_{0}^{1} \int_{x}^{\sqrt{x}} x y(x+y) d y d x$.
38. Define :
(a) Limit of a sequence
(b) Divergent sequence.
39. Show that the sequence $\left\{f_{n}\right\}$ where $f_{n}=\frac{3 n-1}{4 n+5}$ converges to $\frac{3}{4}$.
40. Discuss the convergence of the series
$\sum_{n=1}^{\infty}\left(\frac{n}{n+1}\right)^{n^{2}}$.

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\text { SECTION B }-(5 \times 10=50 \mathrm{marks})
$$

Answer any FIVE questions.
41. If $y=\sin ^{-1} x$, prove that
(a) $\left(1-x^{2}\right) y_{2}-x y_{1}=0$ and
(b) $\left(1-x^{2}\right) y_{n+2}-x(2 n+1) y_{n+1}-n^{2} y_{n}=0$.
42. Investigate the maxima of the function

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f(x, y)=x^{3} y^{2}(1-x-y) .
$$

43. Find the radius of curvature at the point $\left(\frac{3 a}{2}, \frac{3 a}{2}\right)$ on the curve $x^{3}+y^{3}=3 a x y$.
44. If $I_{n}=\int \cos ^{n} x d x$ then show that
$I_{n}=\frac{\cos ^{n-1} x \sin x}{n}+\frac{n-1}{n} I_{n-2}$.

Also evaluate $\int \cos ^{7} x d x$.
45. Find the area bounded by the parabolas $y^{2}=x$ and $x^{2}=y$.
46. Prove that in a convergent sequence the limit is unique.
47. Show that every Cauchy sequence is convergent.
48. Test the convergence for the following series :
(a) $\quad \sum \frac{(-1)^{n+1}}{\sqrt{n}}$
(b) $\sum_{n=1}^{\infty} \frac{n^{2}+1}{5^{n}}$.

