DEERWALK INSTITUTE OF TECHNOLOGY			
MID TERM EXAMINATION, SEM I		**SUBJECT**	**CSC- 101 INTRODUCTION TO INFORMATION TECHNOLOGY**
PASS MARK	**12**	**FULL MARK**	**30**
TIME	**1.5 HRS**	**DATE**	**9 JANUARY, 2017**

INSTRUCTIONS

Students should be seated in the examination hall 10 minutes prior to the conduction of examination.
Fill in the required details carefully on the front page of the answer sheet.
Do not scribble on the question paper.
Addition answer sheets should be safely stapled in order.
Malpractice observed during the examination will lead to an expulsion.
Raise your hand towards Invigilator in case you need any assistance during the examination.
Good luck and all the best.

Attempt Any Four Questions [5×4=20]

1. What are the different categories of Digital computer explain briefly each.
2. Define operating system. What are the main functions of Operating system?
3. What is Normalization in database management systems? Explain Different Normal form with suitable example.
4. Explain different types of Memory.
5. List out different Level of programming Languages with example

Attempt Any One Question [10×1=10]

6. Explain different types of database management system with example.
7. What is modulation? Explain different types of modulation in detail.

DEERWALK INSTITUTE OF TECHNOLOGY			
MID TERM EXAMINATION, SEM I		SUBJECT	CSC- 102 FUNDAMENTALS OF COMPUTER PROGRAMMING
PASS MARK	12	FULL MARK	30
TIME	1.5 HRS	DATE	10 JANUARY, 2017

INSTRUCTIONS

Students should be seated in the examination hall 10 minutes prior to the conduction of examination.
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Attempt All The Questions[5×6=30]

1. Write a flowchart to print all the prime numbers from 1 to 100. [5]
2. Write a simple program that demonstrates the use of all basic elements of C language. Also identify each element in the program. [5]
3. Explain major input and output library functions in brief. [5]
4. Describe the two different forms of the *if-else* statement with suitable example. How do they differ? [5]
5. Write a program that will read a string from an i/o device and examine each character to determine how many of the characters are letter, how many are digits, how many are whitespace characters. [5]
6. A C program contains the following declaration and initial assignments;

```
Int i = 8, j = 5, k;
float x = 0.005, y = -0.01;
char c = 'c', d = 'd';
```

Determine the value of following expressions: [5]

(i) `(i – 3 * j) % (c + 2 * d) / (x – y)`
(ii) `c=c==d;`
(iii) `i=2+2*i++; printf("%d", i);`
(iv) `a = (c < d) ? c : d`
(v) `i-= (j>0) ? j : 0`

DEERWALK INSTITUTE OF TECHNOLOGY			
MID TERM EXAMINATION, SEM I		SUBJECT	CSC- 104 CALCULUS AND ANALYTICAL GEOMETRY
PASS MARK	16	FULL MARK	40
TIME	1.5 HRS	DATE	12 JANUARY, 2017

INSTRUCTIONS

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Attempt All The Questions [2×6=12]

1. Find the Area of the region in the first quadrant that is bounded above by the line y=x and below by the parabola y=.x^2
2. Find the Volume of the Prism whose base is the triangle in the xy-plane bounded by the x-axis and the lines y=x and x=1 and whose top lies in the plane Z=f(x, y)=3-x-y.
3. Evaluate , $\int_{-1}^{1}\int_{0}^{\sqrt{1-x}} dy\,dx$
4. Find extreme values of f(x, y) =$x^2 + y^2$
5. Using Partial derivates, Find $\frac{dy}{dx}$ if x^2+cos y- y^2=0
6. Find $\frac{df}{dx}$ and $\frac{df}{dy}$ at (1,2) if f(x, y)= $x^2 + 2x^2y^2$+5

Attempt All The Questions [4×3=12]

7. Find the derivative of f(x, y)=xe^y+cos(xy) at the point (2, 0) in the direction of $\bar{A}$=3$\bar{i}$-4$\bar{j}$
8. Find the centroid of the region in the first quadrant that is bounded above by the line y=x and below by the parabola y=x^2.
9. Evalute,$\int_0^1\int_0^1\int_0^1 xyz\,dx\,dy\,dz$

Attempt All The Questions [8×2=16]

10. Find the volume of the region D enclosed by the surfaces Z=x^2+3y^2 and Z=8-x^2-y^2
11. Obtain the absolute maximum and minimum values of

    f(x, y)=2+2x+2y-x^2-y^2 on the triangular plate in the first quadrant bounded by the lines x=0, y=0, y=9-x

    Or

    Find the greatest and smallest values that the function f(x, y)=xy takes on the ellipse x^2+4y^2=8

DEERWALK INSTITUTE OF TECHNOLOGY			
MID TERM EXAMINATION, SEM I		**SUBJECT**	**CSC- 103 PROBABILITY AND STATISTICS SET -B**
PASS MARK	**12**	**FULL MARK**	**30**
TIME	**1.5 HRS**	**DATE**	**11 JANUARY, 2017**

INSTRUCTIONS

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Attempt Any Four Questions [4×5=20]

1. What are limitation statistics? Describe the application of statistics in computer.
2. What are the characteristics of normal distribution?
3. Find mode, quartile deviation for normal distribution.
4. Calculate appropriate measure of central tendency and skewness.

class	below 10	10-19	20-29	30-39	40-49	50-59
frequency	10	150	270	100	20	3

5. Find Spearman Rank Correlation coefficient and find the limits of population correlation coefficient.

A	22	37	49	38	43	45	28	23	42	34
B	47	41	21	42	46	39	28	36	41	31

6. Fit the regression line using leas square method and find the variance of error.

year	214	215	216	217	218	2019
population size	18	160	1115	1160	2210	2705

Attempt Any One Question [1×10=10]

7. Define the three measures of skewness. Also clearly state their properties. Write down a situation where mode is preferred to mean. Scores obtained by 16 students in a test are given below. Compute Karl Pearson coefficient of skewness. Describe the nature of distribution

45	48	78	12	15	65	51	22
49	48	55	67	68	48	47	82

8. Differentiate between correlation and regression. What are the properties of regression coefficient and prove one of its properties.A departmental store gives in service training to their salesman which is followed by a test. It is considering whether it should terminate the service of any salesman who does not do well in the test. The following data give the test scores and sales made by nine salesmen during a certain period

Test scores:	14	19	24	21	26	22	15	20	19
Sales('00Rs)	31	36	48	37	50	45	33	41	39

Calculate the coefficient between the test score and the sales. Does it indicate that the termination of services of low test scores is justified? If the firm wants a minimum sales volume of Rs. 3000, what is the minimum test score that will ensure continuation of service? Also estimate the most probable sales volume of a salesman making a score of 28. What is the limits of population correlation coefficient?

DEERWALK INSTITUTE OF TECHNOLOGY			
MID TERM EXAMINATION, SEM I		SUBJECT	CSC- 104 STASTISTICS I SET- B
PASS MARK	12	FULL MARK	30
TIME	1.5 HRS	DATE	13 JANUARY, 2017

INSTRUCTIONS

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Attempt Any Four Questions [4×5=20]

1. What is expectation? An importer is offered a shipment of machine tools for Rs. 240,000 and the probability that he will be able to sell them for Rs. 280,000 Rs 270,000 Rs 250,000 and Rs 290,000 are 0.32 , 0.55 , 0.13 and 0.42 respectively. What is the importers expected gross profit?

2. The chances of X ,Y & Z becoming manager s of a certain company are 4:2:3. The probabilities that bonus scheme will be introduced if X,Y & Z become managers are 0.3 , 0.5 and 0.8 respectively. i) what is the probability that bonus scheme will be introduced? ii)If bonus scheme has been introduced , what is the probability that Z is appointed as manager?

3. It is 2 to 3 odds in favour of a man aged 35 survives till the age of 65 and it is 5 to 2 odds against a woman aged 45 survives till the age of 75.What is the probability that (i) both of them survive 30 years hence (ii) at least one of them survive 30 years hence (iii) Only one of them survive 30 years hence.

4. Define the terms favourable number of cases and sample space. Give axiomatic definition of probability.

5. What is conditional probability? State and prove multiplication theorem of probability.

Attempt Any One Question [1×10=10]

6. What do you mean by Poisson distribution? Derive mean and variance of Poisson distribution. In a telephone exchange room 3 calls arrive per two minutes. What is the probability that (i) no call arrives in two minutes interval (ii) at least one call arrives in one minute interval (iii) at most two calls arrive in four minutes interval.

7. What do you mean by joint probability density function? Define the term covariance and Prove that covariance of two independent random variables is zero. The pdf of a continuous random variable is given by

   $f(x) = xe^{-x}$, $x > \infty\ 0$, elsewhere

   Find (i) E(x) and (ii) V(x)

DEERWALK INSTITUTE OF TECHNOLOGY			
MID TERM EXAMINATION, SEM I		SUBJECT	CSC- 031 PROGRAMMING BASICS SET B
PASS MARK	12	FULL MARK	30
TIME	1.5 HRS	DATE	16 JANUARY, 2017

INSTRUCTIONS

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Attempt Any Three Questions [3×5=15]

1. What is HTML? Explain four different HTML tags with example. [1+4]
2. Prepare a structure of html table with at least 2 rows and 2 columns. Make use of colspan property. [3+2]
3. What is CSS? What is the advantage of using an external css file for styling a web page? How can you define CSS Border, Margin, and Padding? Give examples. [1+1+3]
4. Prepare a sample html document defining 'id' and 'class' for at least two html elements, and also prepare a css document styling the html document. [**Use id and class selector in css.**] [5]

Attempt All The Question [1×7=7]

5. How can you open a link in a new browser window?
   a. a href="url" target="_blank" b. a href="url" new
   b. a href="url" target="new" d. a href="url" target=_window"
6. How can you make a list that lists the items with numbers?
   a. Ol b. dl c. ul d. list
7. What is the correct HTML for inserting an image?
   a. img alt="myimage" image.gif/img b. image src="img.gif" alt="myimage"
   c. img src="image.gif" alt="myimage" d. img href="img.gif" alt="myimage"
8. Which is the correct CSS syntax?
   a. body: color=black b. {body: color=black;} c. body { color: black;}
9. How can you insert a background image in CSS?
   a. background-image: url(a.jpg); b. bg-image: url(b.jpg); c. background: src(c.jpg);
10. How do you change the font of an element?
    a. font: b. f: c. font-family:
11. Where in an HTML document is the correct place to refer to an external style sheet?
    a. at the end of the document b. in the body section
    c. at the top of the document d. in the head section

12. What are the three different ways to define a color in css? Give examples for each. [3]

Attempt Any One Question [1×5=5]

13. Design a web-page on your own. Make use of at least 5 html tags. CSS not required.

14. Write html code for the following. Use CSS to style the background elements of the web-page.

First name:
firstname

Last name:
lastname

Sex:
- Male
- Female
- Other

Address: Kathmandu

Submit