INTERNAL ASSIGNMENT QUESTIONS

B.A. / B.A. (Maths & Stats) III YEAR

SUPPLEMENTARY EXAMINATIONS

SEP / OCT 2018

PROF. G. RAM REDDY CENTRE FOR DISTANCE EDUCATION

(RECOGNISED BY THE DISTANCE EDUCATION BUREAU, UGC, NEW DELHI)

OSMANIA UNIVERSITY

(A University with Potential for Excellence and Re-Accredited by NAAC with "A" + Grade)

DIRECTOR
Prof. C. GANESH
Hyderabad – 7 Telangana State

Dear Students,

Every student of B.A. III Year has to write and submit **Assignment** for each paper compulsorily. Each assignment carries **20 marks.** The marks awarded to you will be forwarded to the Controller of Examination, OU for inclusion in the University Examination marks. The candidates have to pay the examination fee and submit the Internal Assignment in the same academic year. If a candidate fails to submit the Internal Assignment after payment of the examination fee he will not be given an opportunity to submit the Internal Assignment afterwards, if you fail to submit Internal Assignments before the stipulated date the Internal marks will not be added to University examination marks under any circumstances.

You are required to **submit Internal Assignment Answer Script along with Examination Fee Receipt** at the concerned counter on or before **15-10-2018**

ASSIGNMENT WITHOUT THE FEE RECEIPT WILL NOT BE ACCEPTED

Assignments on Printed / Photocopy / Typed papers will not be accepted and will not be valued at any cost. Only hand written Assignments will be accepted and valued.

Methodology for writing the Assignments:

1. First read the subject matter in the course material that is supplied to you.
2. If possible read the subject matter in the books suggested for further reading.
3. You are welcome to use the PGRRCDE Library on all working days including Sunday for collecting information on the topic of your assignments.
   (10.30 am to 5.00 pm).
4. Give a final reading to the answer you have written and see whether you can delete unimportant or repetitive words.
5. The cover page of the each theory assignments must have information as given in FORMAT below.

FORMAT

1 NAME OF THE COURSE   :

2. NAME OF THE STUDENT   :

3. ENROLLMENT NUMBER   :

4. NAME OF THE PAPER   :

5. DATE OF SUBMISSION   :

6. Write the above said details clearly on every assignments paper, otherwise your paper will not be valued.
7. Tag all the assignments paper-wise and submit
8. Submit the assignments on or before 15-10-2018 at the concerned counter at PGRRCDE, OU on any working day and obtain receipt.

Prof.C.GANESH
DIRECTOR

Course: B.A Maths & Statistics

Paper: III   **Title: Applied Statistics –I**   **Year: III**

Stats

Section – A

UNIT – 1: Answer the following short questions (each question carries two marks)   5 * 2 = 10

1. Explain the Principles of design of experiment

2. Explain assignable variation and Chance variation

3. Explain Producer risk and Consumer risk

4. Explain Artificial variable

5. Explain Job Sequencing

Section – B

UNIT – II: Answer the following questions (each question carries Five marks)   2 * 5 = 10

1. Construct Control limits for Mean, Range and SD Chart.

2. Explain Assignment Algorithm.

Name of the faculty:: Govardhan G

Department: Statistics

Course:-B.A(STATISTICS)

Sdats

Paper: IV Title: APPLIED STATISTICS-II Year- III.

Section -A

Unit-I:

Answer the following Short answer questions. [each question carries two marks] [5x2=20].

1. Lottery method.
2. Proportional allocation.
3. Define time series.
4. Laspeyre's and Paaschi's method.
5. Define demand and supply.

Section-B
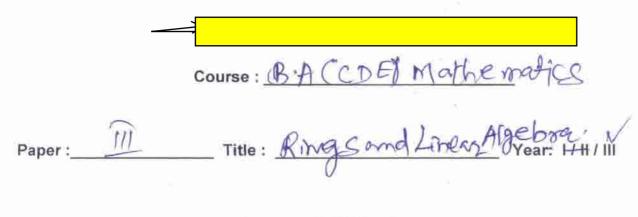
Unit-II:

Answer the following questions.[each question carries five marks]. [2x5=10].

1. In SRSWOR the sample mean square $[s^2]$ is an unbiased estimate of the population mean square $[S^2]$.
2. Explain ratio to trend method to measure seasonal varieties with merits and demerits.

Name of the faculty: k. venkata ramana.
Department: Statistics.

Course : B.A (CDE) Mathematics

Paper : III   **Title :** Rings and Linear Algebra   **Year:** I / II / III

Section – A

UNIT – I : Answer the following short questions (each question carries two marks) 5x2=10

1. If R is a Boolean ring then Prove that (i) $a+a=0 \ \forall a \in R$. (ii) $a+b=0 \Rightarrow a=b$.

2. Find the zeros of $x^5+3x^3+x^2+2x \in Z_5[x]$

3. Find the value of 'a' such that the rank of the matrix $\begin{bmatrix} 3 & 5 & a \\ 2 & 1 & -1 \\ 1 & 4 & 2 \end{bmatrix}$ is 2.

4. Find the eigen values of $A = \begin{bmatrix} 2 & 4 \\ 1 & 5 \end{bmatrix}$

5. Prove that $\|x+y\| \leq \|x\| + \|y\|$.

Section – B

UNIT – II : Answer the following Questions (each question carries Five marks) 2x5=10

1. State and prove that fundamental theorem of homomorphism

2. Solve the system $\left. \begin{array}{l} x+y+z=6 \\ 2x-3y+4z=8 \\ x-2y+2z=5 \end{array} \right\}$ by using Cramer's Rule

Name of the Faculty : V. Venkateshtri

Dept. Of Mathematics

ASSIGNMENT
B.A MATHS III YEAR
NUMERICAL ANALYSIS
PAPER-IV
(PGRRCDE)

Marks : 20

PART-A   5 x 2 = 10
Answer all questions

1. Find a root of $x^2 + x - 1 = 0$ using Regula Falsi method correct to up to one decimal place.

2. Explain Lagrage's interpolating polynomial.

3. Explain Gauss-Seidel iteration method.

4. Explain Bisection method.

5. Difine Runge-Kutta fourth order method

PART-B   2 X 5 = 20
Answer all questions

7. Explain Newton-Raphson method and use it to find a real root of equation
$x^3 - 3x + 1 = 0$.

8. find the polynomial f(x), for the following data

x:	1	2	3	4	5	6
y:	1	8	27	64	125	216

by using Newton's forward Interpolation method.

Short Questions

Find The Laplace transform $5 \times 2 = 10$

(1) $L \{ \cos at \}$

(2) $L^{-1} \left[\dfrac{1}{2S-3} + \dfrac{1}{4S} - \dfrac{S}{S^2-9} \right]$

(3) Solve $\dfrac{d^2x}{dt^2} - 3\dfrac{dx}{dt} + 2x = 1 - e^{2t}$ $x(0)=1, \; x'(0)=0$.

(4) Find The real numbers A and B it

$$A + iB = \dfrac{1}{(1-2i)(2+3i)}$$

(5). Expand The function $f(x) = x \sin x$ at a Fourier series in $(0, 2\pi)$

Longe Questions.

(1) Evaluate $\displaystyle\int_{0}^{\infty} \dfrac{dx}{(a^2 + x^2)^2}$ using parseval's identity. $2 \times 5 = 10$

(2). using method of separation of variable solve $3\dfrac{\partial u}{\partial x} + 2\dfrac{\partial u}{\partial y} = 0, \; u(x,0) = 4e^{-x}$.

INTERNAL ASSIGNMENT

SUB: Applied Mathematics

Paper IV : Differential Geometry

Section – A

UNIT – I : Answer the following questions (each question carries two marks)　　　　**5x2=10**

1. Define Osculating plane

2. Define Evolutes

3. Write First fundamental Form

4. Define Asumptotics

5. Define Torsion

Section – B

UNIT – II : Answer the following Questions (each question carries five marks)　　　　**2x5=10**

1. Write Serret Frenet Formula

2. State Euler's theorem and Rodrigues Formula