

**INTERNAL ASSIGNMENT QUESTIONS**  
**B.A. (Maths & Stats) III YEAR**  
**SUPPLEMENTARY EXAMINATIONS 2016- 2017**



**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**

**PROF.G.RAM REDDY CENTRE FOR DISTANCE EDUCATION  
OSMANIA UNIVERSITY, HYDERABAD – 500 007**

Dear Students,

Every student of BA. (Maths & Stats) III Year has to write and submit **Two Assignment** for each paper compulsorily. Each assignment carries **10 marks (10+10 =20)**. 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 **pay Rs.300/-** towards Internal Assignment fee through on-line payment only ([www.oucde.net](http://www.oucde.net)) and submit the same along with assignments at the concerned counter **on or before 20-10-2017** and obtain proper submission receipt.

**ASSIGNMENT WITHOUT THE EXAMINATION ON – LINE PAYMENT 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 :

**Note: Submit Examination fee on–line payment acknowledge receipt at counter while submitting Internal Assignment Scripts.**

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 **20-10-2017** at the concerned counter at PGRRCDE, OU on any working day and obtain receipt.

**Prof. C. GANESH  
DIRECTOR**

**BA (MATHS & STATS) III YEAR**  
**SUPPLEMENTARY EXAMINATIONS 2016 - 17**  
**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

INTERNAL ASSIGNMENT 2016-2017

Course: B.A Maths & Statistics

Stats

Paper: III

Title: Applied Statistics –I

Year: III

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

Internal Assignment 2016-17

Course:-B.A(STATISTICS)

Stats

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.

INTERNAL ASSIGNMENT- 2016 - 2017

Course : B.A (CDE) Mathematics

Paper : III Title : Rings and Linear Algebra Year: III/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  $x^5 + 3x^3 + x^2 + 2x \in \mathbb{Z}_5[x]$
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  $\begin{cases} x+y+z=6 \\ 2x-3y+4z=8 \\ x+2y+2z=5 \end{cases}$  by using Cramer's Rule

Name of the Faculty : V. Venkatesh

Dept. of Mathematics

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

Marks : 20

**PART-A**  
**Answer all questions**

5 x 2 = 10

1. Find a root of  $x^2 + x - 1 = 0$  using Regula Falsi method correct to up to one decimal place.
2. Explain Lagrange's interpolating polynomial.
3. Explain Gauss-Seidel iteration method.
4. Explain Bisection method.
5. Define Runge-Kutta fourth order method

**PART-B**  
**Answer all questions**

2 X 5 = 20

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.

B.A (3rd year) <sup>paper - III</sup> Applied Mathematics.  
Short Questions  
2016-2017.

Find The Laplace transform

5x2 = 10

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

(2)  $L\left[\frac{1}{2s-3} + \frac{1}{4s} - \frac{5}{s^2-9}\right]$

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

(4) Find The real numbers A and B if

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

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

Long Questions.

2x5 = 10

(1) Evaluate  $\int_0^{\infty} \frac{dx}{(a^2+x^2)^2}$  using parseval's identity.

(2). using method of Separation of

variable

solve  $3\frac{\partial u}{\partial x} + 2\frac{\partial u}{\partial y} = 0, u(x,0) = 4e^{-x}$



**BA (Maths & Stats) III YEAR ANNUAL EXAMINATIONS MARCH/APRIL - 2017**

**INTERNAL ASSIGNMENT**

**SUB: Applied Mathematics**

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**Section – A**

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