CERTIFICATE COURSE

ON

FUNDAMENTALS OF GROUP THEORY

GOVT.DEGREE COLLEGE NARASANNAPETA

SRIKAKULAM DISTRICT

DEPARTMENT OF MATHEMATICS

2018-2019

From :

P. Surekha

Dept. of Mathematics

GDC, Narasannapeta

To :

The Principal

Govt. Degree College

Narasannapeta

PRINCIPAL
GOVT. DEGREE COLLEGE
NARASANNAPETA

Sub: Regarding to start certificate course on Fundamentals of Group Theory

Respected Sir/Madam

I am P. Surekha working as a faculty in the Department of Mathematics in our College. This is regarding with conduct subject related certificate course introducing for students benefits of our department on "**Fundamentals of Group Theory**". The course duration should be **20** days. We are going to start in the academic year 2018-2019. i. e. **from 04-07-2018 to 23-07-2018**.So this is my humble request you to permit us for the establishment of above course.

Thanking you Sir/Madam.

Yours Sincerely

LECTURER
Govt. Degree College
NARASANNAPETA

P. SUREKHA

GOVERNMENT DEGREE COLLEGE, NARASANNAPETA

DEPARTMENT OF MATHEMATICS

SUBJECT RELATED CERTIFICATE COURSE ON 2018-2019

The faculty members of the Mathematics Department met in the Principal's chamber to discuss and review the conduct of the Certificate Course titled **FUNDAMENTALS OF GROUP THEORY** under the Chairmanship of the Principal and the faculty of the Department of Mathematics on 04-07-2018.

AGENDA:

Starting of Certificate Course for I B.Sc (M.P.C &M.P.Cs) Students (II Semester).

RESOLUTIONS:

1. It is resolved to start the Certificate Course titled Basic Concepts of Solid Geometry from 04-07-2018 to 23-07-2018 (20 days).for the academic year 2018-2019.
2. It is also resolved to frame the syllabus, regulations for the successful completition of the Certificate course titled " **FUNDAMENTALS OF GROUP THEORY** "
3. Enrolled 10 students in this Certificate course.
4. Resolved to conduct classes at 4.30pm.
5. Resolved to conduct exam of completition of the course and issue certificates to qualified candidates.
6. Qualifying marks in 40%

Signature

Govt. Degree College
NARASANNAPETA

(**P.SUREKHA**)

Members Present :

1. M. Harika
2.
3.

CIRCULAR

DATE:30-06-2018.

This is to inform that the Department of Mathematics is going to be conducted a subject related Certificate Course from 04-07-2018 to 23-07-2018 for II year students of B.Sc (M.P.C&M.P.Cs) on **"FUNDAMENTALS OF GROUP THEORY "** . The students who are interested can enroll their names to concerned Department on are before 02-07-2018.The duration of the course is 20 days. The candidates who secure 40% of the marks in the examination will get the Certificate.

Signature

Govt. Degree College
PARVATHIPURAM
PETA

(P.BUREDDY)

Lecturer in Mathematics

Department of Mathematics

GOVERNMENT DEGREE COLLEGE, NARASANNAPETA
SRIKAKULAM DISTRICT
DEPARTMENT OF MATHEMATICS

SUBJECT RELATED CERTIFICATE COURSE-2018-2019

TOPIC : FUNDAMENTALS OF GROUP THEORY

ENROLLED STUDENTS LIST

S.NO	GROUP	NAME OF THE STUDENT
1	B.Sc (M.P.C)	B.Kalyani
2	B.Sc (M.P.C)	B.Poornavathi
3	B.Sc (M.P.C)	B.Thavitayya
4	B.Sc (M.P.C)	B.Seetaram
5	B.Sc (M.P.C)	G.Bhasker rao
6	B.Sc (M.P.C)	G.Prasad
7	B.Sc (M.P.C)	G.Satyam Babu
8	B.Sc (M.P.C)	K.Sravani
9	B.Sc (M.P.C)	K.Narasimhulu
10	B.Sc (M.P.C)	K.Prasada rao
11	B.Sc (M.P.C)	M.Sai kumar
12	B.Sc (M.P.C)	M.Balaraju
13	B.Sc (M.P.C)	P.Sai ram
14	B.Sc (M.P.C)	P.Sai
15	B.Sc (M.P.C)	P.Rambabu
16	B.Sc (M.P.Cs)	K.Anil reddy
17	B.Sc (M.P.Cs)	B.Simhachamlam
18	B.Sc (M.P.Cs)	B.Rokesh
19	B.Sc (M.P.Cs)	S.Gopi
20	B.Sc (M.P.Cs)	Ch.Barga Rao

Signature

LECTURER
GOVT. Degree College
NARASANNAPETA

(P.SUBEKHA)

GOVERNMENT DEGREE COLLEGE, NARASANNAPETA

DEPARTMENT OF MATHEMATICS

SUBJECT RELATED CERTIFICATE COURSE-2018-19

SUBJECT : FUNDAMENTAL OF GROUP THEORY

STUDENTS ATTENDENCE LIST

S.NO	GROUP	NAME OF THE STUDENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	B.Sc (M.P.C)	B.Kalyani	P	P	P	a	P	P	P	P	a	P	P	a	P	P	a	P	a	P	P	P
2	B.Sc (M.P.C)	B.Poornavathi	P	P	a	a	P	P	a	P	P	P	P	a	P	P	P	a	P	P	a	P
3	B.Sc (M.P.C)	B.Thavitayya	P	P	P	P	a	a	P	P	P	a	P	P	P	a	P	P	P	a	P	P
4	B.Sc (M.P.C)	B.Seetaram	P	P	a	P	P	a	P	P	P	P	P	P	P	P	P	P	P	P	P	P
5	B.Sc (M.P.C)	G.Bhasker rao	a	P	P	P	P	a	P	P	P	a	P	P	P	P	P	P	P	P	P	P
6	B.Sc (M.P.C)	G.Prasad	P	P	P	P	P	P	P	a	a	P	P	P	P	P	P	P	P	P	P	a
7	B.Sc (M.P.C)	G.Satyam Babu	P	a	P	P	a	P	P	P	P	P	P	a	P	P	P	a	P	P	P	a
8	B.Sc (M.P.C)	K.Sravani	P	P	P	P	a	P	P	a	a	P	P	P	P	a	P	P	P	a	P	P
9	B.Sc (M.P.C)	K.Narasimhulu	P	P	P	a	P	P	P	P	P	P	P	a	P	P	P	P	a	P	P	P
10	B.Sc (M.P.C)	K.Prasada rao	P	P	a	a	P	P	a	P	P	P	P	P	a	P	P	a	P	P	P	P
11	B.Sc (M.P.C)	M.Sai kumar	P	a	P	P	a	P	P	P	P	P	P	a	P	P	P	P	P	P	a	P
12	B.Sc (M.P.C)	M.Balaraju	a	P	P	P	P	a	P	P	a	P	P	P	P	P	P	P	P	P	P	a
13	B.Sc (M.P.C)	P.Sai ram	P	P	P	P	P	P	P	P	P	P	P	a	a	P	P	a	P	P	P	P
14	B.Sc (M.P.C)	P.Sai	P	a	P	a	a	P	P	P	P	P	P	P	P	a	P	P	a	P	P	P
15	B.Sc (M.P.C)	P.Rambabu	P	P	a	P	P	a	P	a	a	P	P	a	P	P	P	P	a	P	P	a
16	B.Sc (M.P.Cs)	K.Anil reddy	P	P	P	P	P	a	a	P	P	a	P	a	P	P	P	P	a	P	P	P
17	B.Sc (M.P.Cs)	B.Simhachamlam	P	a	P	P	P	a	P	P	P	a	P	P	a	P	P	P	a	P	P	P
18	B.Sc (M.P.Cs)	B.Rokesh	a	P	a	P	P	P	P	P	P	P	P	P	a	P	a	P	P	P	P	P
19	B.Sc (M.P.Cs)	S.Gopi	P	a	P	P	a	P	P	P	P	P	P	P	P	P	P	P	P	P	P	a
20	B.Sc (M.P.Cs)	Ch.Barga Rao	P	P	P	a	P	P	P	P	a	P	P	P	a	P	P	P	a	P	P	P

Signature

Govt. Degree College
NARASANNAPETA

(T.SUREKHA)
Lecturer in Mathematics
Department of Mathematics

GOVERNMENT DEGREE COLLEGE, NARASANNAPETA

DEPARTMENT OF MATHEMATICS

SUBJECT RELATED CERTIFICATE COURSE-2018-2019

FUNDAMENTAL OF GROUP THEORY

REPORT :

As a part of academic activity ,the Department of Mathematics has conducted Certificate Course in "**FUNDAMENTAL OF GROUP THEORY**" from 04-07-2018 to 23-07-2018 for the academic year 2018-2019.The important objective of the course is to improve basic knowledge in Mathematics among the UG degree students. As per the instructions given by the Principal during the minutes of the meeting 20 members of students are enrolled into the Certificate Course for IIst year B.Sc (M.P.C&M.P.Cs) to enrich the concepts the solid geometry, the Mathematics faculty members have engaged classes 20 days and depth the basic concepts of the subject. At the end of the course , an external examination with fill in the blanks and multiple choice questions has conducted for the assessment of learners understanding levels of knowledge .The minimum qualifying of marks for the award of certification is 40%.All the students completed the course successfully and got certificates during the academic year 2018-2019.

GOVERNMENT DEGREE COLLEGE, NARASANNAPETA
SRIKAKULAM DISTRICT
DEPARTMENT OF MATHEMATICS
SUBJECT RELATED CERTIFICATE COURSE-2020-2021
TOPIC: BASIC CONCEPTS OF SOLID GEOMETRY

Objective of the Course :

The course will deal especially limited section of specific topics included in the CBSE XI &XII Mathematics curricular, topics to be discussed are those which involve basic concepts and formulas, and which therefore have wide applicability. These are also the topics that are conceptual the deepest and must therefore be understood as clearly as possible this will be the overall objective of the course.

Course Duration : 20 days.

Level : UG

Course type : Scheduled

Certification : Certification will be given on the continuous comprehensive evaluation of Students performance in the learning activities.

SYLLABUS OF THE COURSE

UNIT-I : (5 HOURS)

- **INTRODUCTION**
- **SYMBOLS**
- **FUNCTIONS**
- **RELATIONS**
- **SETS**

UNIT-II : (10HOURS)

- **BINARY OPERATIONS**
- **ALGEBRAIC STRUCTURE**
- **CLASSIFICATION OF GROUPS &EXAMPLES**

UNIT III : (10HOURS)

- **PROPERTIES OF GROUPS**

UNIT-IV : (10 HOURS)

- **SOCKS AND SHOES PROPERTY**
- **SUBGROUP TESTS**

UNIT-IV : (5 HOURS)

- **PERMUTATION GROUPS**

GOVERNMENT DEGREE COLLEGE, NARASANNAPETA

DEPARTMENT OF MATHEMATICS

SUBJECT RELATED CERTIFICATE COURSE-2018-2019

MULTIPLE CHOICE QUESTIONS

TIME : 30 MIN **MARKS: 20**

1. **A non empty set A is termed as an algebraic structure** [ ]
   a) With respect to Binary Operation *
   b) With respect to Ternary Operation ?
   c) With respect to Binary Operation +
   d) With respect to Unary Operation –

2. **An algebraic structure _____ is called a Semi group** [ ]
   a) (p,*) b) (Q,+,*) c) (P,+) d) (+,*)

3. **Condition for monoid is _____** [ ]
   a) (a+e)=a b) (a*e)=(e*a) c) Q=(a*(a+e)) d) (a*e)=(e*a)=a

4. **A group (M,*) is said to be abelian if _____** [ ]
   a) (x+y)=(y+x) b) (x*y)=(y*x) c) (x+y)=x d) (y*x)=(x+y)

5. **G= {1,-1,i,-i} is _____** [ ]
   a) Semi group b) Sub group c) Cyclic group d) abelian group

6. **An identity element of a group has _____ element** [ ]
   a) Associative b) Commutative c) Inverse d) Homomorphic

7. **If A , B & C are Invertible matrices the expression $(AB^{-1})^{-1}(CA^{-1})^{-1}C^2$ evaluates to** [ ]
   a) BC b) $C^{-1}BC$ c) AB^{-1} d) $C^{-1}B$

8. **A relation (34*78)*57=57*(78*34) can have _____ property** [ ]
   a) Distributive b) Associative c) Commutative d) Closure

9. **_____ is the multiplicative identity of natural numbers** [ ]
   a) 0 b) -1 c) 1 d) 2

10. **The set of rational numbers from an abelian group under _____** [ ]
    a) Associative b) Closure c) Multiplication d) Addition