



Board of Studees in Geology
2022-23 (Even Semesters)



Government College (Autonomous)
Rajahmundry



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About the Department

Introduction

The department of geology of the Government College (Autonomous), Rajahmundry, established in 1959, is one of the oldest and reputed departments in the state of Andhra Pradesh. Many eminent geologists working in various geological organizations in the country are the pride products of this department. The William King's Gallery (Museum) has more than 2000 Rock & Mineral specimens and rare fossils. Currently, the department is catering to the educational needs off about 500 students with 4 different programs with different combinations.

Programs offered by the department (2022-23)

S No	Program offered (Combination)	Sanctioned strength (2022-23)	Admitted strength (I Yr)	Admitted strength (II Yr)	Admitted strength (III Yr)
1	B.Sc. (Maths, Physics, Geology)	60(70)	75	70	69
2	B.Sc. (Maths, Geology, Chemistry)	30(35)	22	36	36
3	B.Sc. (Maths, Geology, Computer Sc.)	30(35)	39	38	33
4	B.Sc. (Geology, Geography, Computer Sc.)	30(35)	37	36	33
5	M.Sc. (Geology)	30	5	2	--
6	Ph.D. (Geology)				
	TOTAL		178	182	171

Faculty working

S No	Name of the Faculty	Qualification	Designation
1.	Dr. M.R. Goutham	M.Sc., Ph.D., SLET	Assistant Professor
2	Dr. N. Srinivasa Rao	M.Sc., B.L.I.Sc., Ph.D.	Assistant Professor
3	Mr. S. Venkatesh	M.Sc., SET	Assistant Professor
4	Dr. R. Anil Kumar	M.Sc., Ph.D.	Assistant Professor
5	Mr. Ch. Abhishek	M.Sc.	Assistant Professor
6	Ms. P. Devi Priya	M.Sc. SET	Assistant Professor
7	Ms.S. Durga Bhavani	M.Sc.	Assistant Professor
8	Mr. B. Saikrishna	M.Sc.	Assistant Professor

Infrastructural Facilities

- **2 Laboratories:**
 - 1) M.S. Krishnan Hall
 - 2) C. Mahadevan Hall
 - 3) William King's Gallery (Museum)
- **Learning Resources**
 - Departmental Library with____books

- Petrological microscopes.
- Thin sections of Rocks & Minerals
- Wooden samples of Dam, crystal.
- Different varieties of fossils.

Research

- The Department of Geology has been recognized as **Research Centre** by the Adikavi Nannaya University in the year 2016
- Dr. M.R. Goutham has been actively engaged in research and published his work in National & International Journals.
- Dr. M.R. Goutham has a Research Scholar – K. Maneesha through NET
- To inculcate Research Aptitude in students, the department assigns project work for meritorious students

Best Practices

- Word of the day (Saluting the geological word with each other.
- GEO NEWS (a monthly NEWS magazine)
- **Geology club**
- The Geology club in the department of Geology was inaugurated on 20
 - November 2013 with an aim to bring out the inherent knowledge
 - and leadership qualities present in the students.
- Active and meritorious students in the department are identified and the responsibilities of conducting Geology Club activities are given to them.
- Some of the key activities of the club are conducting the following
 - Running a monthly newsletter “GeoNews” by club members, i.e., students.
- Maintenance of wall magazine in the department namely 'GeoNews'
- Geoquiz
- Group discussions on recent global geological aspects
- JAM sessions on causes of recent natural calamities
- Debate on day today burning topics
- Create environmental awareness among the students
- Maintaining cleanliness in the department

M.R. Goutham



Proceedings of the Principal, Government Autonomous College, Rajamahendravaram

Present: Dr.Ch. Krishna, M.Sc., Ph.D.

Rc. No: Spl./Acad.Cell-GC[A]-RJY/BOS/2022-23, Dated: 16 September 2022

Sub:- Government Autonomous College, Rajamahendravaram - **Boards of Studies (BoS)** for even semesters - Nomination of Members - Orders Issued.

Ref:- UGC Guidelines for Autonomous Colleges - 2021.

ORDER:

The Principal, Government College [A], Rajamahendravaram is pleased to constitute **Board of studies in GEOLOGY** for framing the syllabi in Geology subject for even semesters of the Academic year 2022-23 duly following the norms of the UGC Autonomous guidelines.

S. No	Name	Designation
1	Dr. M.R. Goutham Lecturer in Geology, GC[A], Rajamahendravaram	Chairman
2	All Faculty members in the department	Member
3	Dr. S.S.K. Chaitanya, Head, Department of Geology, Sir CRR College, Eluru	Subject Expert
4	Dr. C. Krishna, Principal, PR Govet. (A) College, Kakinada	Subject Expert
5	Dr. K.V. Swamy, Asst. Professor in Geology, Adikavi Nannaya Univrsity, Rajamahendravaram	University Nominee
6	P.R. Bhavana, DGM, ONGC, Rajamahendravaram	Expert from Industry/Corporate Sector
7	B. Satya David Raju	Student Nominee

The above members are requested attend the BOS meetings and share their valuable views, suggestions on the following functionaries:

- Prepare syllabi for the subject keeping in view the objectives of the college, interest of the stake holders and national requirement for consideration and approval of the Academic Council
- Suggest methodologies for innovate teaching and evaluation techniques
- Suggest panel of names to the Academic council for appointment of examiners
- Coordinate research, teaching, extension and other activities in the department of the college.

The term of the members will be two years from the date of the nomination. The Chairman of the BoS (HoD/lecturer In-Charge of the department) is directed to coordinate with the Principal of the College and conduct BoS meetings as and when necessary, but at least once a year.

**PRINCIPAL
GOVERNMENT COLLEGE [A]
JAHMUNDRY**

Copy to:

- The above individuals
- File



Composition of Board of Studies in Geology
Government College [Autonomous]
Rajamahendravaram

Composition of BoS in Geology (2022-23)

S. No	Name	Designation
1	Dr. M.R. Goutham Lecturer in Geology, GC[A], Rajamahendravaram	Chairman
2	Dr. N. Srinivasa Rao	Faculty Member
3	Mr. S. Venkatesh	Faculty Member
4	Dr. R. Anil Kumar	Faculty Member
5	Mr. Ch. Abhishek	Faculty Member
6	Ms. P. Devi Priya	Faculty Member
7	Ms.S. Durga Bhavani	Faculty Member
8	Mr. B. Saikrishna	Faculty Member
9	Dr. S.S.K. Chaitanya, HoD, Department of Geology, CRR College, Eluru	Subject Expert
10	Dr. C. Krishna, Principal PR Govt. (A) College, Kakinada	Subject Expert
11	Dr. K.V. Swamy, Asst. Professor in Geology Adikavi Nannaya University, Rajamahendravaram	University Nominee
12	Sri P.R. Bhavana, DGM (Retd.), ONGC, Rajamahendravaram	Expert from Industry/Corporate Sector
13	B. Satya David Raju	Student Nominee



Department of Geology
Government College [A], Rajamahendravaram

Allocation of Credits

Program: B.Sc.

Subject: Geology

S. No	Semester	Title of the Paper	Hrs./week	Max. Marks	Mid Sem. Exam	Credits
1	Semester-II	Course- II- Mineralogy& Optical Mineralogy	4	50	50	3
2	Lab-II	Mineralogy & Optical mineralogy	3	50	--	2
3	Semester-IV (Paper-IV)	Course -IV- Structural Geology & Stratigraphy	4	50	50	3
4	Lab-IV	Structural Geology	3	50	--	2
5	Semester -IV (Paper-V)	Course – V – Economic Geology	3	50	50	3
6	Lab V	Economic Geology	3	50	--	2

Chairman, BOS
(M.R. GOUTHAM)



The Board of Studies of **GEOLOGY** met on 16 September 2022 at 11-00 A.M in the department of Geology on under the chairmanship of Dr. M.R. Goutham and the following resolutions were adopted.

Resolutions

1. It is resolved to approve the syllabi for even semesters for 2022-23 by the BoS consisting of university nominee, subject experts, industrial expert and alumni.
2. It is also resolved to approve model question papers and blue print approved by the Board of studies.
3. It is resolved to approve the CIA:SEE as approved by the Staff Council of the College as 50:50 for the 2022-23 admitted batch for all the semesters.
4. It is resolved to approve the following split up of the marks for CIA:SEE for 2022-23 admitted batch for all the semesters.

For 2022-23 admitted batch

S.No.	Component	Distribution of Marks		
1	CIE I (after completion of 50% of syllabus)	20		
2	CIE II (Online Exam)	10		
3	ATTENDANCE	Above 95%	5	5
		91% to 95%	4	
		86% to 90%	3	
		81% to 85%	2	
		75% to 80%	1	
		Below 75%	0	
Pedagogical Strategies				
4	ASSIGNMENT	5		
5	Participation or Paper Presentation in Student Seminars/Workshops/Group Discussions/ Quiz/ Student Study Project/Field Visit/Survey	5		
6	Viva-voce	5		
CIA TOTAL		50		
SEE		50		
Grand Total		100		



5. It is resolved to approve the following split up of the marks for question papers for all the semesters for 2022-23 admitted batch

Semester End Exam (50 Marks)		Internal assessment (50 Marks)
PART	Allotted Marks	
PART A: This Part contains 4 Essay type internal choice questions numbering 1 to 4 will be asked Unit 1 to 5. Student has to answer all the 4 questions. Each question carries 8 marks.	4 x 8 = 32 Marks Question 1 A or B from Unit I Question 2 A or B from Unit II Question 3 A or B from Unit III Question 4 A from Unit IV and or B from Unit V	As given in resolution No: 4 above
PART B: This Part contains 8 Short answer questions numbering 5 to 12 will be asked covering all the units. Student has to answer any 5 out of 8 questions. Each question carries 4 marks.	6 x 3 = 18 Marks Questions 5 to 12 are from Units I, II, III, IV and V respectively. Questions 10,11, 12 are from all 5 units depending on the weightage of the unit	
Total Marks	50	50



6. It is resolved to have Lab/Field Report/Project work for the cluster electives to instil research aptitude among the students.
7. It is resolved to approve the list of examiners & paper setters for all the 3 years
8. It is resolved to make Geological Field Trips compulsory for III B.Sc. Students as the subject is field based science. Student has to submit a field report which will have evaluation by external expert. Similarly I and II year students are also encouraged to carryout field trip.
9. It is resolved to strictly follow the Annual Curricular Plan submitted to the College.
10. It is resolve to conduct a State level student centric activity "**Bhuvana Bodha-2023**" which was initiated in the AY 2018-19 by the "**Geology Club**" in the month of February 2023.
11. It is resolved to have lab for Cluster course 1 (A1/B1/C1) and Project for Cluster Course 2 (A2/B2/C2) and Field Report for Cluster Course 3 (A3/B3/C3).
12. It is resolved to conduct one inter-disciplinary State level seminar/workshop in collaboration with Physics/chemistry/statistics/Botny/Zoology/Computer Science departments during March 2023.
13. It is resolved to continue the in house news letter "**GeoNews**" which was started during last academic year (2014-15) by the Geology Club and involve all the students in club activities.
14. It is resolved to arrange for at least 2 expert lectures/ invited talks by the subject/industry experts in the current academic year to expose the students to the advancements in the subject concerned.
15. It is resolved to put forth before BOS the proposal of starting a Certificate/Diploma course in "**Groundwater Exploration**"/**Remote Sensing & GIS** depending on the collaboration with A.P. State Groundwater Board/any Remote Sensing Agency.
16. It is resolve to make instruction more student centric than conventional by involving them in various activities.
17. It is resolved to initiate a new B.Sc. program with **Geology, Statistics and Computer Science or Mathematics, Statistics and Geology combination** from the 2022-23 academic year as it provides more job opportunities for the students.



The following members were present.

S. No	Name	Designation
1	Dr. M.R. Goutham Lecturer in Geology, GC[A], Rajamahendravaram	Chairman
2	Dr. N. Srinivasa Rao	Faculty Member
3	Mr. S. Venkatesh	Faculty Member
4	Dr. R. Anil Kumar	Faculty Member
5	Mr. Ch. Abhishek	Faculty Member
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12	Sri P.R. Bhavana, DGM (Retd.), ONGC, Rajamahendravaram	Expert from Industry/Corporate Sector
13	B. Satya David Raju	Student Nominee

Chairman, BOS
(M.R. GOUTHAM)



List of Examiners & Paper Setters

S No	Name of the Examiner/Paper Setter	College	Experience	Paper Taught
1	Dr. S.S.K. Chaitanya	Sir CRR College, Eluru (WG Dist)	15	Economic Geology, Structural Geology, Petrology
2	Sri K. Santhosh	HoD, Geology, DNR College Bhimavaram (WG Dist)	4	All branches of Geology
3	Sri G. Trinadh Babu	Sir CRR College (A), Eluru (WG Dist)	4	Physical Geol., Mineralogy, Palaentology, Groundwater Geology
4	Dr. K.V. Swamy	Assoc. Professor Dept. of Geology ANUR, Rajahmundry	11	Mineral Exploration, Geophysics
5	Sri U. Padmanabha Raju	Maharaja College (A), Vizianagaram	30	All branches of Geology

University Nominee:

(K.V. SWAMY)

Industrial Nominee:

(P.R. BHAVANA)

Subject Expert:

(S.S.K. CHAITANYA)

Subject Expert:

(C. KRISHNA)

Staff Members:

Chairman, BOS:

(M.R. GOUTHAM)



Government College (Autonomous), Rajamahendravaram.
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SEMESTER- II - Syllabus

Course-II- Mineralogy & Optical Mineralogy (50 Marks)

Course outcomes

CO1-To Study minerals and mineral sections and infer them by their physical and optical properties.

CO2-To understand how Mineralogy and Optical Mineralogy are used to identify the mineralogical composition of geological materials in order to help reveal their origin and evolution

CO3- To study the minerals samples (hand samples & thin sections) in the laboratory with a petrographic microscope

CO4-To apply the knowledge in the field to identify the rocks

Unit - I

Definition of a mineral - classification of minerals into rock forming and ore forming minerals.

Physical properties of minerals - Colour, streak, transparency, lustre, form, hardness, tenacity, cleavage, fracture and, Specific gravity.

Silicate structures- isomorphism, solid solution, polymorphism, allotropy. Pseudomorphism and radioactivity

Study of physical properties, chemical properties and mode of occurrence of the following mineral groups: Olivine, Garnet and Aluminium silicates,

Unit-II

Study of physical properties, chemical properties and mode of occurrence of the following mineral groups: Pyroxenes, Amphibole and Mica

Unit-III

Study of physical properties, chemical properties and mode of occurrence of the following mineral groups: Quartz, Feldspars, and feldspathoids

Miscellaneous: Staurolite, Tourmaline, Zircon, Calcite, Corundum and Apatite.



Unit-IV

General Principles of optics, Refraction, Snell's law, Critical angle, total reflection,

Optical properties of minerals – isotropic and anisotropic

Polarised light, refractive index, Double refraction, uniaxial and biaxial minerals – Nicol prism and its construction – concept of crossed Nicols

Unit-V

Petrological microscope (Polarising) - its mechanical and optical parts – extinction, pleochroism and interference colours. Optical Properties of important minerals

Text books:

1. A textbook of mineralogy - E.S. Dana and W.E. Ford.
2. Rutleys elements of mineralogy - H.H. Reed
3. Essential of Crystallography - E. Flint.

References:

1. Manual of mineralogy - C.S. Hurlbut and C.Klein
2. Mineralogy for students - M.H. Batey.
3. An introduction to rock forming minerals - Deer, Howie, and zussman.
4. Elements of mineralogy - Mason and Bern.

LAB-II (Practicals)

50 Marks

At the end of Second semester

Practical-II- Mineralogy and Optical mineralogy

Study of physical properties and diagnostic features of the following mineral:

Quartz Jasper, Agate, Chalcedony, Amethyst, Orthoclase, Microcline, Albite, Anorthite, Labradorite, Enstatite, Hypersthene, Augite, Hornblende, Actinolite, Tremolite, Asbestos, Muscovite, Biotite, Phlogopite, Olivine, Epidote, garnet, Kyanite, Sillimanite, Andalusite, Beryl, Zircon, Apatite, Corundum, Talc, Gypsum, Calcite, Fluorspar and Serpentine.

Study of optical properties of the following minerals:

Quartz, Orthoclase, Microcline, Plagioclase, Hypersthene, Augite, Tremolite, Hornblende, Muscovite, Biotite, Olivine, Epidote, Garnet, Kyanite, Beryl, Calcite, Chlorite, sillimanite, Leucite.



Government College (Autonomous), Rajamahendravaram
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I B.Sc., GEOLOGY- (2022-23)

Internal assessment (w.e.f.2022-23)

As per the Examination Policy of the College, 50 marks are allocated for Continuous Internal Assessment, which is shown below.

CIA 1 (Direct Assessment)	--	20 m
CIA 2 (Online Test)	--	10 m
Assignment	--	05m
Pedagogical Strategies	--	05m
Attendance	--	05 m
Viva –Voice	--	05 m
		<hr/>
		50 m
		<hr/>

Model Question paper for CIA 1

Answer the following questions

Question No 1 (Essay question) }
Question No 2 (Essay question) } 2 x 5m = 10 M

Answer all the following questions 5 x 2m = 10 M

Question No 3
Question No 4
Question No 5
Question No 6
Question No 7

Model Question paper for CIA 2

20 multiple choice questions will be given for ½ mark each. Student has to answer all the questions.
20 x ½ = 10 M



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I B.Sc., GEOLOGY –(2022-23)

SECOND SEMESTER

Model Question Paper

(Mineralogy and Optical Mineralogy)

Time: 2 ½ Hours

Max.Marks: 50

PART- A

Answer all the Questions. *Each Question carries 8 marks*

4 x 8 = 32M

1. Explain different types of Silicate Structures with suitable sketches and mineral examples

OR

Explain different physical properties of minerals

2. Describe the Pyroxene group of Minerals.

OR

Describe physical & chemical properties and mode of occurrence of Amphiboles

3. Describe physical & chemical properties and mode of occurrence of Feldspars

OR

Describe the Quartz group of Minerals.

4. What are different optical properties of minerals? Explain.

OR

Explain different optical properties studied under Microscope

PART- B

Answer any **Six** Questions. *Each Question carries 3 marks*

6 x 3 = 18M

5. Rock forming and ore forming minerals
6. Isomorphism and polymorphysm.
7. Name the felspathoid minerals with chemical compositions
8. Snell's law
9. Parts of microscope
10. Define Pyro electricity and Piezo electricity.
11. Moh's Hardness Scale
12. Define Uniaxial and Biaxial minerals



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I B.Sc., GEOLOGY PRACTICALS - 2022-23
PRACTICAL MODEL QUESTION PAPER FOR Course II
At the End of II Semester

Time: 3 hours

Max.Marks: 50

- 1) Description of Physical Properties, Diagnostic features of Minerals (4Nos)
4X5=20
- 2) Identification of thin sections of mineral and describe the optical Properties
4X5=20
- 3) Record Preparation 10 Marks

50 Marks



Government College (Autonomous), Rajamahendravaram
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GEOLOGY SYLLABUS - (2022-23) II B.Sc.,
IV-SEMESTER (Paper – IV)

Course IV: Structural Geology & Stratigraphy (50 Marks)

Course outcomes

- CO1- To understand the concepts of Structural geology, three dimensional distribution of large bodies of rocks
CO2- To interpret stress and kinematic histories from structural measurements.
CO3- To know about the relative position of strata and their relationship to the geological timescale
CO4- To gain knowledge on the analysis of the order and position of layers of archaeological remains

Unit-I

Definition of structural geology, aim and objectives of the structural Geology; Importance of study of structures, primary and secondary structures; outcrop, attitude of beds - strike, dip and apparent dip. Use of clinometer and Brunton compass. **Folds** -description, nomenclature of folds - Geometrical and genetic classification. Recognition of folds in the field.

Unit-II

Joints- Classification of Joints- geometrical and genetic classification. **Faults** – geometrical and Genetic Classification of faults, recognition of faults in the field, effects of faults on the outcrops.

Unit-III

Unconformities- Definition of unconformity- types of unconformities. Recognition of unconformities in the field. Distinguishing the faults from unconformities. Definitions of overlap, outlier, cleavage, schistosity, foliation and lineation

Unit-IV

Stratigraphy: Definition and Principles of Stratigraphy. Nomenclature of Stratigraphy (Lithostratigraphy, Biostratigraphy, Chronostratigraphy, magnetostratigraphy etc.)

Unit- V

Standard geological time scale, Physiographic divisions of India with stratigraphic and structural characteristics.



Text books

1. Structural Geology - Marlarid. P. Billings.
- 2 An outline of structural Geology - E.S. Hills
- 1.Principals of stratigraphiy - Dunbars & Rodgers.
2. Fundamentals of Historical Geology and Stratigraphiy - Ravindra Kumar

References

1. Structural Geology - L.U. De Setter
2. An outline of structural Geology - E.S. Hills
3. Geology of India (Vol. 1 & 2) - R. Vydyanadhan & M. Ramakrishnan

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LAB-IV (Practicals)

50 Marks

At the end of Fourth semester

Structural Geology

1. Study of topographical maps.
2. Interpretation of simple geological maps with horizontal and inclined beds, Unconformity, folds and faults with reference to the topography and structure, geological succession and history, Section drawing (at least 10 maps)
3. Problems dealing with true dip and apparent dip. Bore-hole data thickness and width of the outcrop and dip of the beds (At least 10 problems).
4. Finding attitude of beds using stereographic projection.
5. Arranging geological events in chronological sequence in given geological section.



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II B.Sc., GEOLOGY 2022-23

Model Question Paper

Course IV: Structural Geology & Stratigraphy

Time: 2 ½ Hours

Max.Marks:50

SECTION- A

Answer all the Questions. *Each Question carries 8 marks*

4 x 8 = 32M

1. What are faults? How do you classify them? Describe with neat sketches.
OR
2. Classify and describe different types of folds and describe the criteria for their recognition in the field
3. Describe different types of unconformities and discuss the criteria for their recognition
OR
4. Write an essay on joints.
5. Define Stratigraphy. What are different Principles of Stratigraphy
OR
6. Write an essay on Standard Geological Time Scale
7. Describe different Physiographic Features of India with their structural Characteristics.
OR
8. Write an essay on geological timescale of India

SECTION- B

Answer any **SIX** Questions. *Each Question carries 3 marks*

6 x 3 = 18 M

9. Define Hinge and axis of folds
10. Inlier and Outlier
11. Columar Joints
12. Fault scrap
13. Graben & Horst
14. Recognition of faults in the field
15. Order of superposition
16. Lithostratigraphy



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II B.Sc., GEOLOGY 2022-23

**Practical Model Question
Paper IV: Structural Geology**

1. Interpretation of Geological Maps	_____	1 X 10=10
2. Problems	_____	1 X 10=10
3. Stereographic Projection	_____	1 X 5= 5
4. Chronological sequence	_____	1 X 10=10
5. Viva-Voce	_____	5
6. Record	_____	10 m
TOTAL		50 Marks

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II B.Sc., GEOLOGY 2022-23

SEMESTER-IV (Paper-V)

Paper-V : Economic Geology (50 Marks)

Unit-I

Definition of Economic geology, mineral resources and mineral deposits, importance of economic minerals and rocks, ore minerals, gangue minerals (gangue). Ore and industrial minerals.

Classification of mineral deposits - Bateman's classification modified by Jensen. Processes of formation of mineral deposits; endogenetic and exogenetic processes.

Unit-II

Study of ore deposits of gold, copper, lead, zinc, aluminium, with respect to their mineralogy, uses, mode of occurrence, origin and distribution in India.

Unit-III

Iron, manganese, chromium, uranium and thorium, with respect to their mineralogy, uses mode of occurrence, origin and distribution in India.

Unit-IV

Distribution of industrial minerals in India for the following industries: Abrasives, cement and Ceramic, insulators.

Fossil fuels: Coal - origin and types of coal - coal deposits of India, Petroleum

Unit-V

Atomic minerals: Uranite, Pitchblende, Beach sands: Monazite, limonite; Rutile and Zircon and their use.

Mineral resources of Andhra Pradesh.

Additional Module: Economic importance of Eastern Ghats

Text Books:

- | | | |
|--|---|-------------------------|
| 1. Indian mineral resources | - | S. Krishnaswamy |
| 2. Introduction of India's economic Minerals | - | N.Lisharrna, K.S.V. Ram |
| 3. Geology & mineral resources of Andhra Pradesh | - | N.V.B.S. Dutt |
| 4. Mineral Resources of Andhra Pradesh | - | Dr. P.K Ramam |

References:

- | | | |
|---|---|-----------------|
| 5. Indian mineral year book (1997) of Mines | - | Indian Bureau |
| 6. Fuel minerals | - | A.K.Brown & Dey |



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II B.Sc., GEOLOGY 2022-23

Lab V- Economic Geology (50 Marks)

Megascopic study, mode of occurrence, distribution in India and uses of the following economic minerals:

Iron Ores: Haematite, Magnetite, Pyrite,
Manganese Ores: Pyrolustie, Psilomelane,
Copper Ores: Chalcopyrite, malachite, Azurite,
Bauxite,
Chromite:
Galena, Sphalerite,
Magnesite,
Gypsum,
Asbestos,
Steatite,
Graphite,
Monazite, illmenite, Zircon,
Fluorite,
Barytes,
Corundum,
Topaz,
Calcite,
Kaolinite,
Kyanite,
Sillimanite,
Garnet and
Mica.



Government College (Autonomous), Rajamahendravaram
(Affiliated to Adikavi Nannaya University)

II B.Sc., GEOLOGY 2022-23

SEMESTER – IV

Model Question Paper

Course:V - ECONOMIC GEOLOGY

Time: 2 ½ Hours

Max.Marks: 50

SECTION- I

Answer any FOUR questions. Each question carries 8 Marks

4x8=32M

1. Write an essay on the classification of minerals deposits.
OR
2. Explain the mechanical concentration process of mineral deposits? Give Indian examples.
3. Explain the formation of ore deposits through magmatic concentration.
OR
4. Write an essay on the Origin, Occurrence and distribution of coal deposits in India.
5. Write an essay on the Mineral resource of A.P.
OR
6. Write an essay on the Origin, Occurrence and distribution of Manganese deposits in India.
7. Write an essay on the Origin, Occurrence and distribution of Copper deposits in India
OR
8. Write an essay on the Origin, Occurrence and distribution of Radioactive Mineral deposits in India

SECTION- II

Answer any Six Questions. Each Question carries 3 marks

6 x 3 = 18M

9. Write short notes on
10. Ankaleswar oil fields
11. Cavity filling.
12. Ore & Gangue Minerals
13. Abrasives
14. Bauxite
15. Refractoris
16. Gold deposits in Andhra Pradesh.

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PRACTICAL Model Paper (Economic Geology)

Max.Marks: 50

1. Economic Minerals _____ 8 X 5 = 40

2. Record _____ 10

Total Marks _____ 50



