F–8552	Sub. Code
	7MGE3C1

M.Sc. DEGREE EXAMINATION, NOVEMBER 2022

Third Semester

Geology

ECONOMIC GEOLOGY

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define the process of Metasomatism.
2. Write a short note on Geobarometry.
3. What are the ores of Copper?
4. List some uses of Barite.
5. What are the ores used for Cement manufacturing?
6. Define Tenor and Grade for minerals.
7. Write a short note on Strategic minerals with examples.
8. Define Bi – reflectance.
9. Give a short note on Paragenesis.
10. Define Polarization.

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Give brief note on Contact Metasomatic deposits.

Or

(b) Write a note on Geo thermometry.

12. (a) Describe mode of occurrence and distribution of Manganese in India with uses.

Or

(b) Enumerate the mode of occurrence and distribution of Copper and iron in India.

13. (a) Describe Mineral Wealth of Tamil Nadu.

Or

(b) Describe about the mode of occurrence and distribution of Abrasive and Refractory minerals.

14. (a) Write a note on mineral conservation on substitution.

Or

(b) Describe about the scope and significance of minerals in National Economy.

15. (a) Enumerate the process involved in preparation of Ore section.

Or

(b) Describe about Micro - chemical techniques in Ore Petrography.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Write an essay on Metallogenetic epochs and provinces.

17. Write in detail about origin, mode of occurrence and distribution of Lead and Zinc in India with its uses.

18. Discuss about the Properties, mode of occurrence and distribution of radioactive minerals in India.

19. Give a detailed account on Ore Reserve Estimation Techniques

20. Discuss about the optical properties of Ore minerals.

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F–8553

Sub. Code
7MGE3C2

M.Sc. DEGREE EXAMINATION, NOVEMBER 2022

Third Semester

Geology

ENGINEERING GEOLOGY, MINING GEOLOGY AND ORE DRESSING

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is meant by shear strength?

2. Give any two differences between building stone and facing stone.

3. Write a note on the toe of a dam.

4. Define dock.

5. What are pilot tunnels?

6. Define sonic drill.

7. List any four advantages of longwall mining method.

8. Write a note on ventilation shaft.

9. Define size separation.

10. Name any four primary crushers.

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain the role of geology in the field of civil engineering.

Or

(b) Enumerate the engineering properties of building stone.

12. (a) Write short account of spillways.

Or

(b) Suggest suitable protection measures for coastal erosion.

13. (a) Bring out the significance of geological logging.

Or

(b) With a diagram describe mine shaft.

14. (a) Classify and give a brief outline of underground coal mining methods.

Or

(b) Describe the hydraulicking mining.

15. (a) Elucidate size reduction fundamentals.

Or

(b) Differentiate jaw crusher and gyratory crushers with reference to their salient features.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Discuss common engineering properties of rocks.

17. Explain the types of dams and discuss the reason for darn failures.

18. Give a detailed account of rock sampling methods.

19. Discuss important sub-surface mining methods.

20. Give a brief account of the following:
    (a) Principles of mineral dressing.
    (b) Floating machines.

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F–8554	Sub. Code
	7MGE3E1

M.Sc. DEGREE EXAMINATION, NOVEMBER 2022

Third Semester

Geology

Elective – REMOTE SENSING, GIS AND COMPUTATIONAL GEOLOGY

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is Electromagnetic spectrum?

2. What is Pixel?

3. What are the types of resolution?

4. Define IFOV.

5. Define Noise removal.

6. What is Geometric and radiometric correction?

7. Define components of GIS.

8. Define Vector.

9. What is the Fundamentals of Computer?

10. What is Binominal distribution?

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Describe spectral reflectance curve.

Or

(b) Write short note on Energy source and radiation principle.

12. (a) Write about the Analog and Digital data products.

Or

(b) Write about the sensor characteristics of LANDSAT, and IRS Series of satellites.

13. (a) Describe Image classification.

Or

(b) Describe Image restoration and rectification.

14. (a) Give an account on the Attribute data management.

Or

(b) Write a note on Hardware and Software modules.

15. (a) Describe Multinomial distribution and joint probability.

Or

(b) Give an account on the Histogram and Relative Frequency Histogram.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain Thermal remote sensing.

17. Explain across track and along track scanning features.

18. Give detailed account on Image enhancement and their characteristics features.

19. Discuss about the interpretation of ground water exploration using remote sensing and GIS.

20. Explain the Joint variation of two variables, covariance and Confidence interval.

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