

22381

23124

3 Hours / 70 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
(2) Answer each next main Question on a new page.
(3) Illustrate your answers with neat sketches wherever necessary.
(4) Figures to the right indicate full marks.
(5) Assume suitable data, if necessary.
(6) Use of Non-programmable Electronic Pocket Calculator is permissible.
(7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

- 1. Attempt any FIVE of the following :** **10**
- Define “Mine Economics”.
 - Define “Run off mine Grade”
 - Explain “Bore hole sampling”
 - Define “Mine valuation”.
 - Explain “Briquetting”.
 - List any four major mineral based industries.
 - Define “Minimum stoping width”.

P.T.O.

- 2. Attempt any THREE of the following :** **12**
- a) Describe “Highlights of National Mineral Policy 2019”
 - b) Elaborate the UNFC classification of Mineral Reserver.
 - c) Explain various grades and their types.
 - d) Describe “Included and Extended” methods of reserve calculations.
- 3. Attempt any THREE of the following :** **12**
- a) Elaborate the various sampling methods.
 - b) Describe various methods of “Sample Preparation”.
 - c) Enlist and explain the important steps involved in mine valuation.
 - d) Explain the net present value method of mine valuation.
 - e) Explain EMI or Dimminishing annuity method of debt redemption.
- 4. Attempt any THREE of the following :** **12**
- a) Explain any one method of calculating depreciation.
 - b) Elaborate the various advantages of ore dressing.
 - c) Describe with sketch the construction and working of Jaw crushers.
 - d) Distinguish between weighted avg grade and average grade.

- 5. Attempt any TWO of the following :** **12**
- a) Describe how mineral conservation is achieved.
 - b) Describe How grade of a stope block exposed and sampled on all sides by exploratory mining.
 - c) Define salting and explain various types of salting method and precautions against salting.
- 6. Attempt any TWO of the following :** **12**
- a) Explain errors in sampling and procedure of precaution.
 - b) A machine purchased for Rs 30,00,000=00 Amount is to be paid in 5 installments over 5 year period interest rate is 10%. Find out the annuity or annual payment for this machine.
 - c) Describe gravity separation method.
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