

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V(New) • EXAMINATION – WINTER 2016

Subject Code:2152201

Date:17/11/2016

Subject Name:Mining Machinery - II

Time:10:30 AM to 01:00 PM

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 Short Questions 14**
- 1 Write purpose of headgear.
 - 2 Define term: Angle of fleet
 - 3 Give the value of fleet angle in headgear with their reason.
 - 4 When detaching hook is required?
 - 5 What is difference between cage and skip?
 - 6 Write working of rope in friction winding.
 - 7 Where hinged platform is placed?
 - 8 If the diameter of rope is d cm then what will be the diameter of pulley?
 - 9 How many types of load comes on headgear?
 - 10 Which type of rope is used for winding?
 - 11 At which place safety catches are placed?
 - 12 What do you mean by winding?
 - 13 Why tail rope is used behind cage?
 - 14 How many co-efficient of friction between the lining of sheave?
- Q.2 (a) Write note on Cage and Skip. 03**
(b) Describe various shaft fitting provide in underground mine. 04
(c) Explain design of Headgear with neat and clean sketch. 07
- OR**
- (c) Explain keps in brief with neat and clean sketch. 07**
- Q.3 (a) Describe use of creeper. 03**
(b) Write note on Rigid Guides. 04
(c) Give the types of winding system. Explain any one with neat sketch. 07
- OR**
- Q.3 (a) Describe use of tippler. 03**
(b) Write note on Rope Guides. 04
(c) Explain Ward Leonard Control system with neat sketch. 07
- Q.4 (a) Write note on multi rope winding. 03**
(b) Explain thruster brake in detail. 04
(c) Explain mechanical braking system with neat sketch. 07
- OR**
- Q.4 (a) Write note on Pit-top layout. 03**
(b) Differentiate between Crippers and Tippler. 04
(c) List out types of detaching hook. Explain any one in detail with sketch. 07
- Q.5 (a) Make list various safety devices used in mines. 03**
(b) Describe mineral screening and handling equipment. 04
(c) Describe coal plough with their principle, operation and maintenance. 07
- OR**
- Q.5 (a) Write note on safety catches. 03**
(b) List out types of face loaders. Explain any one of it. 04
(c) Describe continuous miner with their principle, operation and maintenance. 07