

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**