Code No: 56096 **R09**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year II Semester Examinations, December - 2017
MINE SURVEYING-II
(Mining Engineering)

Time: 3 hours **Max. Marks: 75**

Answer any five questions
All questions carry equal marks
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1. The following is the data related to observations made on a vertically held staff with a tacheometer fitted with an anallatic lens.

Instrument station	Height of axis	Staff station	W.C.B	Vertical angle	Hair readings	Remarks
O	1.56	A	$12^0 25'$	$0^0 0'$	1.80, 2.23,2.60	R.L. of O = 131.56
		B	$60^0 45'$	$+15^0 10'$	1.85,2.16,2.49	

The constant of the instrument is 100. Calculate the distance AB and the reduced levels of A and B. [15]

2.a) What are the different methods of setting out curves?
b) Describe in detail the procedure of method of setting of curve with sketches, an underground haulage roadway bearing N 30^0 E to a roadway bearing due east with a curve of 45 m radius. [7+8]

3. Explain in detail about the principle of the method of Terrestrial photo-grammetry along with its method of location of point M. [15]

4.a) What is Astronomical Triangle?
b) Determine the hour angle and declination of a star from the following data: [7+8]
i) Latitude of the place = $48^0 30'$ N
ii) Azimuth of the star = 50^0 W
iii) Altitude of the star = $28^0 24'$

5. Explain about Wiesbach method of correlation. [15]

6.a) What are the tools for representation of features in GIS?
b) Describe the sources of error in GIS. [7+8]

7.a) What are the advantages of Total station?
b) Explain important operations of Total Station. [7+8]

8. Explain the principle and operation of EDM. [15]

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