Code No: 126CK **R13**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech III Year II Semester Examinations, May - 2016
MINE SURVEYING-II
(Mining Engineering)

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

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A (25 Marks)

1.a)	Define the term "Super elevation".	[2]
b)	State the Principle of tachometric surveying.	[3]
c)	Define the term "Photogrammetry".	[2]
d)	Define the terms "Longitude and Latitude".	[3]
e)	List the various correlation methods for surface and underground.	[2]
f)	State the purpose of Correlation.	[3]
g)	List the application of remote sensing in Mining.	[2]
h)	List the fundamental measurement by Total Station.	[3]
i)	What are different types of E.D.M instruments?	[2]
j)	List various GIS software used in mining filed.	[3]

PART - B (50 Marks)

2.a) The stadia reading with horizontal sight on a vertical staff held at 50 m from a tacheometer are 1.285 and 1.780 m. The focal length of the object glass is 25 cm and the distance between the object glass and vertical axis of the tacheometer is 15 cm. Calculate the stadia interval in mm?

b) Explain the terms "Simple curve" and "Compound curve". [5+5]

OR

3.a) The two underground roads AB and BC intersect at the deflection angle is 105^0.These roads are to be connected by a circular curve of 150 m radius. Calculate i) Tangent distance ii) Main chord iii) Length of the curve

b) Explain the Tacheometric constants. [5+5]

4.a) Determine the number of photographs required to cover an area 25 km×20 km. If the scale is 1 in 10,000 and the format is 230×230 mm. Take longitudinal lap as 60% and the side lap as 30%.

b) Explain what you understand by i) Apparent time ii) Local mean time. [6+4]

OR

5.a) Vertical photographs of an area lying 500 m above the mean sea level are to be taken at a scale of 1:20000 from an aircraft. If the camera has a focal length of 210 mm, calculate the flying height of the air craft above the mean sea level in metres?

b) Explain the procedure for determination of Azimuth. [6+4]

6. Describe the method of correlation by direct traversing. [10]

OR

7.a) Explain the method of measurement of depth of shafts.
b) Explain the Survey for connecting national grid. [5+5]

8.a) State the fundamentals of GPS.
b) Explain the terms “Scale and Resolution”. [5+5]

OR

9.a) Explain about GPS Receivers, GPS observable and data processing.
b) State the different components of Total Station instrument. [5+5]

10.a) Explain the procedure of finding out of given area of setting out a work using EDM.
b) List various statutory requirements of Mine surveying. [5+5]

OR

11.a) Explain the working Principle of Electro Magnetic Distance measuring system.
b) Explain about the Geographical Information system. [5+5]

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