BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)

CLASS: BE **SEMESTER: VI**
BRANCH: CEE **SESSION : SP/2019**

SUBJECT : CE6003 TRANSPORTATION ENGG.II

TIME: 1.5 HOURS **FULL MARKS: 25**

INSTRUCTIONS:
1. The total marks of the questions are 30.
2. Candidates may attempt for all 30 marks.
3. In those cases where the marks obtained exceed 25 marks, the excess will be ignored.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. The missing data, if any, may be assumed suitably.

Q1 (a) Write any two the advantages of railways over water transport. [2]
(b) Compare railways and highways with respect to right of way, gradients and curves and suitability. [3]

Q2 (a) What is IRCON? Explain its function. [2]
(b) Explain switch-back method of alignment of track in a mountainous terrain. [3]

Q3 (a) Write any two advantages of coning of wheels. [2]
(b) Differentiate between SWR, LWR and CWR. [3]

Q4 (a) What material as ballast you would suggest for high speed tracks and why? [2]
(b) Discuss any three different methods adopted for subgrade improvement. [3]

Q5 (a) Why is that low gradients are provided in station yards? [2]
(b) On a B.G.3^0 curve the equilibrium cant is provided for a speed of 75 km/h. Calculate the value of equilibrium cant. Allowing a maximum cant deficiency, what would be the maximum permissible speed on the track? [3]

Q6 (a) Write any two primary objectives of using transition curve. [2]
(b) Determine the length of transition curve for a M.G curve of 4^0 having a cant of 8 cm. The maximum permissible speed on curve is 60 km/h. Draw the offset at every 10m. [3]

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