GOVERNMENT COLLEGE OF ENGINEERING, JALGAON
(An Autonomous Institute of Government of Maharashtra)
National Highway No.6, JALGAON – 425 002

Phone No.: 0257-2281522   Fax No.: 0257-2281319
Website : www.gcoej.ac.in   E-mail : princoej@redifmail.com

Name of Examination : **Summer 2021** - (Preview)

Course Code & Course Name : **CE454D - Railway Tunnel And Airport Engg**

Generated At : **19-04-2022 15:03:09**

Maximum Marks : **60**   Duration : **3 Hrs**

Edit | Print | View Answer Key | Close | **Answer Key Submission Type:** Marking scheme with model answers and solutions of numerical

Instructions:

1. *All questions are compulsory.*
2. *Illustrate your answer with suitable figures/sketches wherever necessary.*
3. *Assume suitable additional data; if required.*
4. *Use of logarithmic table, drawing instruments and non programmable calculators is allowed.*
5. *Figures to the right indicate full marks.*

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1) a) i). What are the considerations are there for selecting the gauge for railways ?   [03]

   ii). Briefly explain problems caused by change of gauge.   [03]

   b)   Explain the forces acting on the track.   [06]

2) a) i). Explain the Hogging of rails & Scabbing of rails.   [03]

   ii). State the requirements of good ballast.   [03]

   b)   What are the functions & requirements of sleepers ?   [06]

3)   **Solve any two of following questions.**

   a)   Explain the basic requirements of an ideal alignment of railways in detail.   [06]

   b)   What do you mean by the gradient & also explain types of gradients which are used in the railways ?   [06]

   c)   Explain the modernization of railways.   [06]

4) a)   Discuss various shapes of tunnel.   [06]

   b)   Write a note on tunneling in soft soil & hard rock.   [06]

5)   **Solve any two of following questions.**

   a)   Describe basic runway length & actual runway length.   [06]

   b) Explain taxiway design.   [06]

   c)   Briefly explain atleast six factors that should be considered when potential sites for heliports are analysed.   [06]

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