xiv) Why it is necessary to maintain tracks regularly.

xv) Describe objectives of tunnel ventilation?

SECTION-C

Note: Long answer type questions. Attempt any three questions. 3x10=30

Q.3 Describe various surveys to be conducted before laying a new railway track.

Q.4 Differentiate between Steel, Wood & Concrete sleepers?

Q.5 What is a crossing? Describe its components with a neat sketch.

Q.6 Describe various components of a Bridge with a neat sketch.

Q.7 Draw typical cross section of a tunnel for a National Highway.

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SECTION-A

Note: Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

Q.1 a) Reconnaissance survey

b) Railway Engineering

c) Conning of wheels

d) Sleeper

e) Permanent Way

f) Dog spike

g) Check Rail

h) Square Crossing

i) Wing wall

j) Sub structure

k) Approach

l) Permanent Bridges

m) Deck Bridge

n) Fixed plate bearing

o) Railway tunnel

p) Blowing

q) Timber pile

r) Point Rail

SECTION-B

Note: Short answer type questions. Attempt any ten parts 10x4=40

Q.2 i) Give classification of Indian Railways.

ii) Describe the factors influencing Railway Routes.

iii) Describe the components of Permanent Way with a neat sketch.

iv) What are the functions of a Rail.

v) Discuss the functions of a good Ballast?

vi) What are the objectives of signalling?

vii) Differentiate between Bridge & Culvert?

viii) Give the classification of tunnels briefly.

ix) What is tunnel ventilation? Why it is necessary?

x) List different shapes of tunnels & describe any two?

xi) Differentiate between Routine & Special Maintenance?

xii) Explain various types of Wing Walls?

xiii) What are the requirements of a good Bridge foundation?