(OLD COURSE)   QP Code : 3701

Con.

(3 Hours)   [Total Marks : 100

Note: i. Q. No. 1 is compulsory
         ii. Attempt any 4 out of remaining 3
         iii. Support all theory and numerical with neat sketch

1. A. Draw Layout of marshaling yard with its entire component and explain purpose of each   (08 M)
        component.
    B. Solve the following.   (12 M)
        i. Explain working of semaphore signals.
        ii. Explain Airport obstruction.

2. A. Enlist all fixtures and fastenings required for a B.G yard using wooden sleeper. Also calculate   (08 M)
        number of rails, sleepers and all the fixtures and fastenings required for 1km B.G track with
        Wooden sleeper and having sleeper density as M+10.
    B. Write note on Types of rail joints.   (06 M)
    C. Explain the role of transportation in development of a nation.   (06 M)

3. A. If the basic runway length for an airport situated at elevation of 100 meter is 1000 meter, find the   (08 M)
        actual runway length required if mean of average daily temperature and mean of maximum daily
        temperature is obtained as 38°c and 47°c respectively. Assume the runway to be horizontal
    B. Explain American method for laying of tracks.   (06 M)
    C. What are various visual aids? Explain their role in safety and efficiency of airport.   (06 M)

4. A. What would be the permissible speed on curve if on a 50° B.G track, average speed of trains is 70   (08 M)
        kmph and allowable cant deficiency is half that of maximum cant deficiency.
    B. Enlist and Explain purpose of various elements of an airport.   (06 M)
    C. Explain uniformity of gauge. What are its advantages?   (06 M)

5. A. Write step wise procedure to draw wind rose diagram type I and II.   (08 M)
    B. Explain instrumental landing system.   (06 M)
    C. Explain various theories of creep.   (06 M)

6. A. Calculate all the elements of a turnout on B.G track if N=12, d=13.3 cm and angle of switch is 1° 8′   (08 M)
        0″. Assume any other data if required.
    B. Interlocking of signal and points.   (06 M)
    C. Explain special breakwaters.   (06 M)

7. Write short note on any 4.   (20 M)
    A. Wooden sleepers.
    B. Dry docks.
    C. Different rail failures.
    D. Turning radius of an aircraft.
    E. Types of Harbour as per their purpose.