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ID # 7510

Subject # Transportation Eng

Submitted to # Majid Naeem

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Question # 1

Given data:-

6000 = vehicle monthly
Peak flow rate of 550
vehicles @ 15min

Required:-

PHF = ?
moving vehicles moving per
lane per hours in each
direction = ?

Sol:-

$$\text{Vehicles per day} = \frac{6000}{30} = 2000$$

$$= 2000 \text{ veh/day}$$

$$\text{Vehicles per hour} = \frac{2000}{24} = 83.3$$

$$= 83.3 \approx 84 \text{ veh/h}$$

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S6

Six lane for both direction

$$84/6 = 14$$

Hence 14 vehicles are moving per lane per hour in each direction

therefore

$$PHF = \frac{14}{4 \times 550}$$

$$\boxed{PHF = 0.0063}$$ Ans

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Q No 2

vehicles No	Distance	Travel time	Speed km/hr
1	1400	1.31	64.122
2	1400	1.51	55.629
3	1200	1.11	64.865
4	1500	0.90	100.000
5	1000	1.12	85.714
6	1800	1.52	71.053
7	1200	1.45	49.655
8	950	0.90	63.33
9	1175	1.33	53.008
10	1200	1.13	63.717
11	1300	1.30	60.000
12	1400	1.26	70.00
13	1800	1.24	87.097
14	1700	1.11	91.899
15	1800	1.00	108.000
16	2100	1.12	112.500
17	1200	0.87	82.759
18	1700	1.40	72.857
19	1600	1.21	79.339
20	1700	0.55	185.455
Total	29725	23.28	1620.945
Average			

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Average Distance ▸

$29795/20$

$= 1486.95\ m$

$= 1.48695\ km$

Average time travel :-

$23.98/20$

$= 1.164\ m$

$= 0.0194\ hr$

Average Speed

$1620.995/20$

$= 81.049\ km/hr$

$TMS = \frac{\Sigma \text{ speed}}{n} = 1620.995/20$

$= 81.049\ km/hr.$

$SMS = \frac{n\,x}{\Sigma T} = \frac{20 \times 1.48695}{0.388}$

$= 29.795/0.388$

$SMS = 76.61\ km/hr.$

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Q.No3 Explain Railway Engineering in details.

Ans) Railway Engineering:-

The branch of civil Engineering which deals with the planning, design, construction, operation and maintenance of the railway tracks for safe and efficient movement of trains (people and goods) is called railway Engineering.

* Primary objectives of Railway Engineering are:

→ Safety
→ Efficiency

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History:-

The history of railway is closed linked with the development of civilization.

→ As the ~~nes~~ necess arose, human beings developed various methods of transporting goods frome one place to another.

→ In the primitive days, goods were carried as head loads or in carts dawn by men and animal.

→ Then efforts were made to replace animal power with mechanical power.

Components of railway track

An engineered structure consisting of two metal

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guiding rail on which vehicle are self pulled by a locomotive is called a railway track.

Rail
Ballast
Sleeper
fastening

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Question #4

Briefly explain Airport Engineering?

Ans) Airport Engineering :-

* Airport Engineering composed the planing, design, and construction of terminals runway and navigation aids to provide safe moment for passenger and freight service.

* An airport is a facility where passengers connect from ground transportation to air transportation.

Airfield :-

Airfield is a area where aircraft can take off which is equiped with any

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navigation aids and terminal facilities.

Aerodromes :-

is a defined area on land or water (including any building, installation equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.

History of Air Transport:-

* The world's first airport was built up in 1928. at croydon near london (England).

* The international civil Aviation organization (ICAO):-

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The international civil Aviation organization (ICAO), an agency of the united nations The principles and technique of international air navigation and faster, the planning and development of international air transport to ensure safe and orderly growth.

Components of Airport:

1. Runway
2. Taxiway
3. Apron
4. Terminal building
5. Control tower
6. Hanger
7. Parking.