

## Sample Question Paper - II

International Course on Road Safety Audit, 01-15 December 2020,

TRIPP, IIT Delhi

Name of Candidate:

Please submit your answer at <.....>

### 1-5. Mark the correct statement:

- a. Raised medians are recommended in high speed roads to ensure safety. (Y/N)
- b. Thrie beam barrier is recommended where heavy trucks and buses are present in traffic stream.(Y/N)
- c. Audible shoulder markers can reduce run-off the road crashes.(Y/N)
- d. W Beam barriers can be embedded in concrete base to improve effectiveness of crash barriers.(Y/N)
- e. Cable barriers are recommended on the valleyside of the hill roads where shoulder space is less than 1 m.(Y/N)

### 6-10 Match the following

	Sheathing (Sheeting)	a.	Gaining access to higher levels of permanent structure during construction
	Form (Shutter)	b.	Part of form which is in contact with concrete
	Falsework	c.	Frame for casting precast concrete units
	Centering	d.	Part of formwork consisting of sheeting to support concrete till it becomes self- supporting
	Mould	e.	To support work in process of construction and is composed of shores, formwork for beams etc.
	Scaffolding	f.	Specialized formwork used in the construction of arches, shells space structures

## True or False

11. Formwork is a temporary structure desired to safely support the concrete until it reaches adequate strength to stand on its own.

12. Examples of temporary formwork are: concrete formwork construction, scaffolding, falsework/staging, cofferdams, underpinning, diaphragm wall, slurry wall, earth retaining structures, construction dewatering.

13. The three major objectives of formwork are quality, safety, and economy.

14. Honeycombs and bug-holes constitute evidence of good quality formwork.

15. Primary causes of formwork disasters are: excessive loads, premature removal of forms or shores, and inadequate lateral support for shoring members

16. Ways to avoid formwork failure are: proper design and system, qualified and trained staff, reporting

17. Edge drop-offs greater than 200 mm leads to more severe crashes. List the most effective way of preventing these crashes:

- a. Audible marking on the edge lines
- b. Installing lights to improve visibility
- c. Using yellow paint for the edge line

29. Road Traffic crashes are random phenomena. Therefore one year crash data cannot be used for Black spot identification or evaluation of counter measures. What is the minimum time period required for Blackspot identification: a. 10 years      b. 1.5 years      c. 3 years

18. Distance markers alone can reduce fatal crashes near exit ramps    True----  
False----

19-23 . Identify at least two problems in the following figures:



Unprotected pillar

No retroreflective marking on W beam

20.



Inadequate crash attenuator

Missing chevron marking

21. Identify one problem



Placement of gantry within clear zone  
22.



Wrong use of crash barrier

23.



Damaged crash barrier

24-28. Suggest at least 1 remedial measure for the problem identified in the figures.



Crash barrier in front of drain

25.



Remove all structures from clear zone

26.



Proper transition treatment

27.



Warning signs for shoulder under construction

28.



Appropriate crash cushion

**29. IRC SP 99 (Traffic Calming) recommends repeated bar markings on two lane road before approaching a habitation, why: Mark the most appropriate answer:**

- a. reduce speeds from 80km/h to 40km/h
- b. Caution drivers of cross traffic
- c. Warn drivers of approaching habitation(40/km h zone), and gradually reduce speed

30. What is the appropriate speed limit for MDR passing through habitation?

- a. 10km/h                      b. 40km/h                      c.80km/h

31. What is the appropriate speed limit for undivided SH passing through a habitation?

- a. 10km/h                      b. 40km/h                      c.80km/h

32. What is the appropriate speed limit for an exit ramp from access control expressway?

- a. 10km/h                      b. 40-50km/h                      c.80km/h

33. What is the appropriate speed limit for vehicles near TOLL Plaza?

- a. 10km/h                      b. 40km/h                      c.80km/h

34. What is the appropriate speed limit for vehicles in service areas?

- a. 10km/h                      b. 40km/h                      c.80km/h

35. High medians can be given in high speed road to avoid single vehicle crashes

(True/ False)

36. W- Beam barriers are best for roads with heavy vehicle traffic.

(True/ False)

37. Cable barriers are always better than any other type of barriers.

(True/ False)