Transport (Zakaria Sir)

1. Most important properties of aggregates used for highway construction? (P-412) → 10 5

2. State Importance of Aggregate grading & the methods to obtain a specified grading.

3. What are the laboratory tests for bituminous materials in road construction? (P-422)

4. what are the requirments of Asphalt cement ~~over~~ for overlay mixes (sheet Table P-4)

15

5. What are the major classification of asphalt binder ~~State~~ performance grade binder

list test parameters & equipments needed for superpave binder test

15

KSS

6. What are the ~~essenti~~ especial qualities reqd for bitumen to be used in road construction of BANGLADESH → How are these qualities be achieved? 12 (sheet)

7. How to find CKE & Surface capacity in the hveem method of mix design? + (sheet + 501 - 547) Math 18 2/3

8. What are the general steps for determining optimum/design binder content in any mix design method?

→ Compare Marshall & Hveem method with regard to test schedule & design criteria for heavy traffic?

↓ sheet

19. Classification of Aggregates

20. How do you get aggregates in a specified gradation for a particular project.

21. What are the tests included for aggregates in the specification for pavement overlay project?

22. What are the present grades of Asphalt cement based on Standard Capillary viscometer test?

23. What are the types & grades of emulsified asphalts?

9. What are the requirments of asphalt & aggregates in superpave mix design?

10. How do you find Design asphalt content in Hveem method of mix design after having the value of approx. asphalt content by CKE procedure to Marh

11. State the steps for refining crude petroleum in order to get different varieties of asphaltic materials.

12. What are the viscocity grades of asphalt cement? (P-428)

13. What are the tests for asphalt cement & aggregates in the specification of asphalt overlay construction?

14. What are the special tests for emulsified asphalt ?

15. What are the requirments / objectives of asphaltic concrete mix design ?

16. What are the methods & general steps for determining optimum asphalt content ?

17. How is CKE determined ?

18. What are the test schedule tests & steps for determining design asphalt content in Hveem method ?

19. Math .

2015-16 8(b)

$W_{air} = 3450$ gm

$W_{water} = 1962$ gm

field, $G_{mb} = \frac{W_a}{W_a - W_w}$

$= \frac{3450}{3450 - 1962}$

$= 2.32$

field sample

Air void $= 100 \times \frac{G_{mm} - G_{mb}}{G_{mm}}$

$= 100 \times \frac{2.52 - 2.32}{2.52}$

$= 7.9\%$

Not satisfactory

lab, air void, $= 100 \times \frac{G_{mm} - G_{mb}}{G_{mm}}$

5.5 $= 100 \times \frac{G_{mm} - 2.384}{G_{mm}}$

$\frac{5.5}{100} = 1 - \frac{2.384}{G_{mm}}$

$G_{mm} = 2.52$

13-14 7(c)

% compaction = (100 - air void)%