

**Fifth Semester  
Civil / CTM  
Eighth Semester  
PTDC Civil  
Scheme July 2008  
TRANSPORTATION ENGINEERING - II (504)**

**Time : Three Hours****Maximum Marks : 100****Note :** i) Attempt total **five** questions out of **eight**.

Hb Anb&gt; \_g gonm àíZ hb Hs{OE&amp;

ii) In case of any doubt or dispute, the English version question should be treated as final.

{H\$gr ^r àH\$na Hb g\$bn AWdm{ddnX Hs prW{V ' | A\$Or ^mfHb àíZ H\$noA\$V' ' nZm Omfjor&amp;

1. a) Explain classification of road as per Nagpur road plan. 8  
Zmna gS\$H\$ qmDZm Hb AZmna gS\$H\$Hb dJuH\$U H\$no g' PnBq&
- b) Explain in detail various types of road gradient. 8  
{d{^P àH\$na Hb gS\$H\$ Txbnq H\$no{dnVna gog' PnBq&
- c) Draw neat cross section of national highway. 4  
amQ\$& ' hnr m^Hb AZbnW H\$no>H\$m {Ml ~ZnBq&
2. a) List various traffic studies, explain any two of them. 10  
{d{^P qmVmqmV gdj Unq Hs gMr Vqna H\$ {H\$Yht XnoH\$no g' PnBq&
- b) Define "sight distance", explain stopping S.D. on single and two lane road. 10  
N{i>Xqr H\$no n[a^mfV Hs{Oqlo qgJb d S>b bz Hb {bE {damr (nQamrJ) N{i>Xqr H\$no g' PnBq&
3. a) Explain widening of road, why it is essential? 10  
gS\$H\$ Mns\$H\$U H\$no g' PnBqlo Mns\$H\$U 3qmq AndíqH\$ h; Bgo ^r g' PnBq&
- b) List various test on bitumen, explain any one test. 10  
{~Q\$' Z na {H\$E OmZodnbonarj Unq Hs gMr ~ZnBqlo {H\$gr EH\$ narj U H\$no g' PnBq&
4. a) Describe various types of traffic signs. 10  
{d{^P àH\$na Hb qmVmqmV {MYhmq H\$m dU2 Hs{Oqlo

- b) Write step by step construction procedure of concrete road. 10  
H\$M\$O>g\$H\$ {Z' nE H\$ MaU-Ö {d{Y {b{I E&
5. a) Using neat sketches explain types of camber. 8  
ñdÄN>{MÌ n H\$ ghmfVm go CRad H\$ àH\$na g' PnB¶ä
- b) Calculate super elevation for horizontal curve of radius 300m. The road width is 7.5m, the speed limit is 70 kmph. Take lateral coefficient of friction as 0.15. 8  
300 'r. {ÌÁ¶mH\$ j {VO dH\$ H\$ {bE ~nhçñWmZ H\$m ' mZ knV H\$(OE& g\$H\$ 7.5 'r. Mnf\$ h; {Ogo 70 {H\$' r/KQm H\$ aäVma H\$ {bE ~Zm¶m OmZm h& nmrd©KfE Jwñf\$ H\$m ' mZ 0.15 {b¶m Om¶ä
- c) Draw neat sketch of expansion joint for concrete road. 4  
H\$M\$O>g\$H\$ H\$ {bE àgma Onö H\$m ñdÄN>{MÌ ~ZnB¶ä
6. a) Explain traffic island, write their advantages and disadvantages. 8  
¶mV/m¶mV Örrn¶ H\$mg' PnB¶ä BZH\$ bm^ VWm hmfZ¶m H\$no {b{I E&
- b) With neat sketch explain hill road drainage system. 8  
ñdÄN>{MÌ H\$ ghmfVm gonhmf\$ g\$H\$ H\$ Ob {ZH\$gr H\$mg' PnB¶ä
- c) Explain "mud pumping". 4  
""H\$MS>CNab'' g' PnB¶ä
7. a) Using sketches, explain various failure in flexible Pavement. 8  
{MÌ n H\$ ghmfVm go bMrbr g\$H\$ H\$ ' öb hmZo H\$ {d{^P àH\$nan¶ H\$no g' PnB¶ä
- b) Explain road side arboriculture, also write advantages. 8  
g\$H\$ H\$ XnZn¶ Anna d¶ namU g' PnB¶ä gmV hr BgH\$ bm^ {b{I E&
- c) Explain importance of transition curve. 4  
g\$H\$' U dH\$ H\$ ' hîd H\$mg' PnB¶ä
8. Write short note on following
- a) Design of flexible pavement 8
- b) Machines and tools for concrete road construction 6
- c) Overtaking sight distance 6  
{ZâZ{b{I V na g\$¶ á {Q\$Ur {b{I E&  
A) bMrbr g\$H\$ H\$m A{^H\$enZ  
~) H\$M\$O>g\$H\$ {Z' nE H\$ ' erZoEd\$ CnH\$aU  
g) nmaH\$ Ñ{i>X¶r

