Assignment-4

A distributary canal takes off from a branch canal having CBL at 204m and FSL at 205.8 m. The gross command area at the head of the distributary is 30000 ha and after each km it is reduced by 5000 ha. Out of this command, the cultural command area is only 75%. The intensity of irrigation for the Rabi and Kharif seasons is 32% and 15% respectively. Design suitable channel sections for the first 3 km of this distributary, assuming the following data:

i)   Total losses below km 3= 0.44 cumsec.
ii)   Channel losses occur @ 2 cumsec/ million square metres of wetter perimeter
iii)   Kor period for Rabi (wheat)= 4 weeks
iv)   Kor depth for Rabi=14 cm
v)   Kor period for Kharif (rice)= 2.5weeks
vi)   Kor depth for Kharif =20 cm
vii)   Manning's n=0.0225
viii) Critical velocity ratio=0.95

The ground levels at every 200 metres, along the line of the proposed alignment, have been obtained are tabulated in below table.,

Distance from head in metres	Reduced level in metres
0	205.2
200	205.3
400	205.25
600	205
800	204.9
1000	204.3
1200	204.3
1400	204.2
1600	204.2
1800	204.1
2000	204.05
2200	204
2400	203.95
2600	203.95
2800	203.9
3000	203.8