



I gdk; z̄ Ør v/; ; u ræ=kP; k i fj .kkedkj drpk vH; kl

i k- MkW jkBkM yktoarh b̄z ojkY
f'k{k.k'kkL= egkfo | ky; jck'khZ

i Lrkouk

I /; kps ; Ør ekfgrh I ä'k.k ræ=Kkukps ; Ør vkgs R; keGs 'k{kf.kd v/; ; u v/; ki ukP; k I äYi ukgh cnyr vkgr- dehr deh oGr vf/kdkf/kd v/; ; u Øgkos ; k mn'ns kkus v/; ; u v/; ki ukP; k {ks=krgh uoufou uomi d'z khy v/; ; u o v/; ki ukP; k i/nrh gh fodfl r gkr vkgr- f'k{k.k {ks=kr b&yfuæ} , e&yfuæ} vkrjfdz kRed v/; ki u] vU; kU; v/; ki u o I gdk; z̄ Ør v/; ki u ; kl kj [ks 'k{kf.kd iØkg fuekZ k gkr vkgr- R; krhy I gdk; z̄ Ør v/; ; u ræ= vR; r i fj .kkedkj d Bjr vkgs I gdk; z̄ Ør v/; ; u gh , d v'kh i fdz k vkgs dh T; ke/; s fo | kFkhZ xVke/; s , d= ; Åu f'k{kdkauh i kj'kkh I knj dSY; k I kfgR; koj dk; z̄ djrkr-

I ä kks/kukph mfn'V; s

- 1- v/; ; ukFkhZ/; s xVdk; z̄ I ØkHkkouk] I gdk; z̄ Ør rh # tfo.ks
- 2- v/; ; ukFkhZ uk tckcnkj h] drD; ; 'kLohi .ks i kj i kM. ; kcjkscjp v/; ; ukFkhZ/; s brj kps Eg. k.ks tk.kuu ?ks ; kl I eFkZ cufo.ks

I ä kks/kukph dk; kRed mfn'V; s

- æ. fo | kF; kUk i Øpkip.kh ns ks
- æ. fo | kF; kUj I gdk; z̄ Ør v/; ; u ræ=kP; k ek/; ekruu v/; ; u dj. ; kl i ØRr dj.ks
- æ. fo | kF; kUk mRrjpkp.kh ns ks
- æ. I gdk; z̄ Ør v/; ; u ræ=kph i fj .kkedkj drk ri kl .ks

I ä kks/kukph i fj dYi uk

I gdk; z̄ Ør v/; ; u ræ=kP; k ek/; ekruu v/; ; u dSY; kus fo | kF; kP; k xq kkr ok< gkbÿ-

'kU; i fj dYi uk

Lgdk; z̄ Ør v/; ; u ræ=kP; k ek/; ekruu v/; ; u dSY; kus fo | kF; kP; k xq kkr dks krkgh Qjd i M.kkj ukgh-

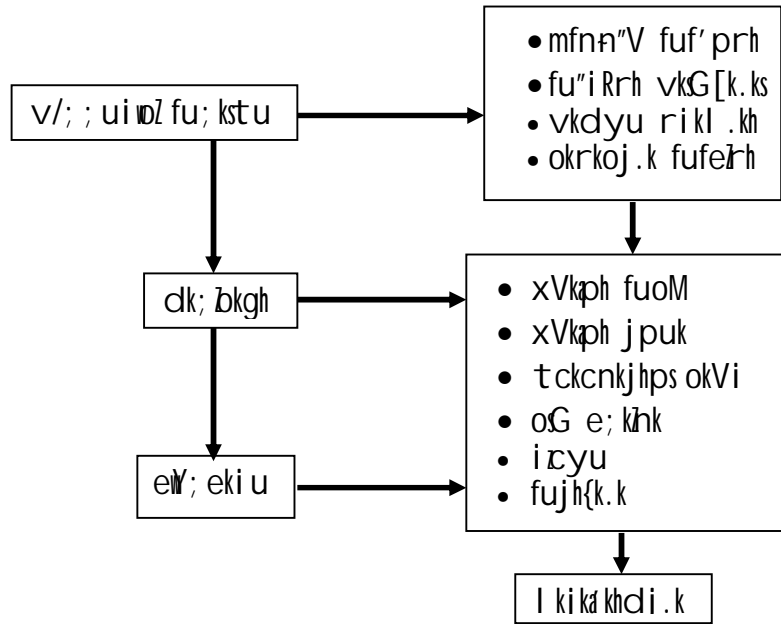
I ä kks/kukph xj t o egRo

fo | kF; kUk xVkr dke dj. ; kps I o; ykork ; s ; kl kBh I nj I ä kks/kukph xj t vkgs ; kruu fo | kF; kUk I kefgd tckcnkj h i syr k ; bÿ- I keftd dks kY; I qkkj rk ; bÿ-

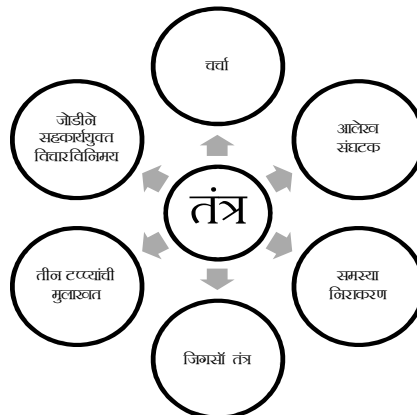
dk; kph fof'k"V j puk djrk ; s; kl kBh l nj l a kks'ku egRoi w kZ Bjrs xVkrhy i R; s dKp; k
er kpk vknj dj.; kps dks kY; fo | kF; k k uk vkRel kr djrk ; bly-

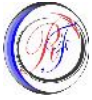
l a kks'kukph dk; i /nrh

l nj l a kks'kukl kBh ik; kfxd i /nrhpk okij dj.; kr vkyk- ueuk fuoMhe/; s l nj
l a kks'kukl kBh mLeKukckn ftYg; krhy Hke rkyD; krhy ikp ek/; fed 'kkGkph fuoM
dj.; kr vkyh- ; k 'kkGkarhy b; RRkk l krohP; k 30 fo | kF; kph fuoM dj.; kr vkyh- ; k
fo | kF; k b; [kkyhy i ek.ks dk; bkg h dj.; kr vkyh-



v' kki z kjs r; kjh d s; kurj [kkyhy r a kpk okij dj.; kr vkyk-
l gdk; z p r v/; ; ukph r a s





ppkz

v/; ; ukr fgnh 0; kdj .kkryh fo'ksk.k ; k ?kVdkph ppkz ?kMouu vk.kyh- ppkz Eg.kts , d fof'k"V izdkjps l kkk"k.k gks ; kr l keku; l kkk"k.kki s'kk vf/kd foLr'r] foosdiwkl fopkjaps vknku inku dsys l keku; r% ppār egRRoiwkl fopkjauk vkf.k l eL; kauk l ekfo"V dsys ; kl kBh xVppaps vk; kstu dj. ; kr vkys gksrs

rhu VII; kph eyk[kr

; ke/; s xVkrhy iR; d l nL; kph nd ū; k l nL; kph tkMhinkj Eg.kuu fuoM dj. ; kr vkyh- ifgY; k VI; kr ifgyk l nL; kus nd ū; k l nL; kph iz ukRrjkP; k ek/; ekriu eyk[kr ?kryh- nd ū; k VII; kr nll jk l nL; vkiY; k vkiY; k tkMhinkjaps ifrl kn xVkcjkcj nsok.k ?kok.k dsyh ; k i/nrhus frl ū; k VII; kr ifj.kkedkd v/; ; u ?kMys mnk- fo'ksk.kkps izdkj izdkjkph fofo/k mnkgj .ks

l eL; k fujkdj .k

fo|kF; kē ekj , [kknh l eL; k fuekZk d#u 1/fo'ksk.kkps izdkj o mnkgj .ks 1/2 R; kckcr fopkj dj. ; kl kBh fo|kF; kēuk i kRl kghr dsys fo|kFkhZ vkiY; k i pklūkkokP; k vk/kkjs fofo/k l eL; k l kMo. ; kpk iz Ru djhr vl rkr ; k rā=k}kjs fo|kF; kē/khy mPp fopkj ifdz p̄k fodkl gksrks fopkj ifdz d̄ pkyuk nrk ; rso ; kē; fn'kk nrk ; r̄s

vkys[k l ?kVu

gs vR; ar 'kDrh'kkyh o iHkkoh ek/; e vkgs T; k}kjs vo?kM l adYi uk vFkz wkl v'kk #i kr nk[kfork ; srk- rl p̄ ; k rā=kr , d pksdV cufoys tkrs dh T; ke/; s ekfgrh xkGk dj.ks o frph fofo/k izdkjkr ppār kBh]ys[kukl kBh o l ākks'kukl kBh okij djrk ; rks ; ke/; s 0; kdj .kkryh fo'ksk.kkph l āwkl ekfgrh vkd'r'h dk<u fo|kF; kēuk ppkz dj. ; kl l kfxrys

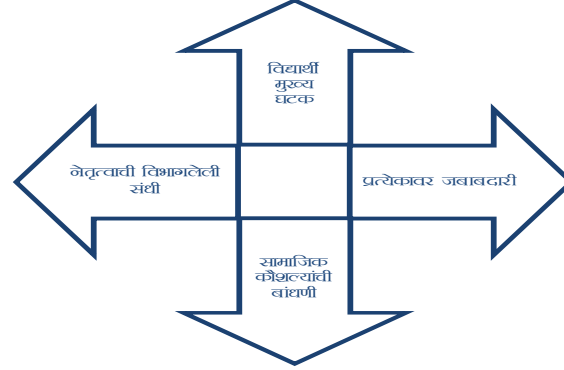
ftxl kW rā=

i kp l gk fo|kF; kēk , d xV ; ki ek.ks fo|kF; kēk xV r; kj dsyk- iR; d xVkyk l eku v/; ; u l kfgR; fnys iR; d fo|kF; kēyk v/; ; ukl kBh dkgh fof'k"V Hkkx o oG fnyk- fof'k"V dēkdaps fo|kF; kēuk ppkz dj. ; kl l kfxrys gs fof'k"V dēkdaps fo|kF; kēuk brj fo|kF; kēuk v/; ; ki u dsys ; keGs fo|kFkhZ iR; {ki .ks oxzdk; kār l ghkkxh gksrkr o egRokps dke o v/; ; ki u dl s djkos ; kckcr tkxr gksrkr- vū; kē; v/; ; ki u

; k rā=ke/; s f'k{k d o fo|kFkhZ ; kP; kr l o knkP; k Lo#i kr vk'k; kckcr vkarjfdz k ?kMou ; srk- ; ke/; s i wzdFku]Li "Vrk] iz ukaph ekM.kh o l kjkā khdj .k ; kpk okij dsyk tkrs vū; kē; v/; ; ki u gk vkdyukl kBh mRre ekxz vkgs rl p̄ gs vkarjfdz kRed v/; ; ki u vkgs

; kurj fo|kF; kēuk mRrjpkp.kh ns ; kr vkyh-

fu"d"KZ fo | kF; kP; k mRrjpkp.khP; k ok< fnl u vkyh- Eg.ku 'kU; ifjdYi upk
R; kx dj.; kr vkyk- o l a kks'ku ifjdYi upk Lohdkj dj.; kr vkyk-
v'kki zdkjs v/; ; u >kY; kurj fo | kF; kE/; s [kkyhy i zdkj ph of' k"V; s fnl u vkyh-



Qk; ns

- 1- foef"kr fopkj l kj.khl pkyuk feGkyh-
- 2- l a'k'kkph tkxk l gdk; kU fnyh xsyh-
- 3- l dkj kRed n"Vhdkukps fodl u >kys
- 4- l a'k.k dks kY; kr o/nhær >kys

l ekj ks

l gdk; z' p' v/; ki u ra= gs v/; ; ukps i Hkkoh ra= Eg.ku i q's ; r vkgs ; k
ckrhr f'k{k.k {ks=kr dk; l dj.kkU; k i R; dkus tkx#d o l fdz; jkg.ks xj tps vkgs
rjp v/; ; ukFkhz , d i Hkkoh f'k{kcd Eg.ku l ekj ; ow 'kdrks

l anHkZ uph

१. p0gk.k th& v/; ; u v/; ki u& i kja kjhd rs vk/kfud
२. [http://setc Carleton.edu/inrogeo/coperetive/techniques](http://setc.Carleton.edu/inrogeo/coperetive/techniques).
३. Johson et at 1998