

ckaKZf bvg t ibrahim hossen
 ckaKZf tckv t Ab'vb"
 ckaKZf BtgBj t ibrahbd@gmail.com
 ckaKZf tgvvBj baf t 01812574479
 wel q t nvBtWcubK wmt ÷ g
 we-Í wí Z weeí b t wKfite nvBtWcubK c×wZ `Zix Kiv hvq ?

nvBtWcubK c×wZtZ mewR, dj l dj BZ`w` dmj Pfti gj bwiZ ntj v- wqwsZ cwi tejk MvtQi AZ`vek`Kxq
 cQvRbxq Lvt `vcr` vb cwbi gta` mieivn Kti ótj i ev cøw÷-†Ki tUº, evj wZ ev tevZtj dmj Drcv` b Kiv|

nvBtWcubK e`envi c×wZ

mvavi YZt `ß Dcvtq nvBtWcubK m c×wZtZ dmj Drcv` b Kiv hvq|
 (K) mAvj b c×wZ
 (L) mAvj b wnx b c×wZ

nvBtWcubK c×wZtZ Priv Drcv` tbi Kj vKSkj

mvdj `RbKfite nvBtWcubK c×wZtZ Priv Drcv` tbi Dci wftkl , iæzi w`tZ nq| Kvi Y G
 c×wZtZ Priv Drcv` b c jæzi cbº Priv Drcv` tbi mewfbæc×wZ AvtQ |

- 1| `úÄ e†K Priv Drcv` b
- 2| bwi tKtj i Avtki , ovq Priv Drcv` b
 - K) mvbwktZ Priv Drcv` b
 - L) cw÷-†Ki ctU Priv Drcv` b

nvBtWcubK c×wZtZ i mvqubK `eb %Zixi Kj vKSkj

nvBtWcubK c×wZi mvdj ` wbfº Kti A†bKlv i mvqubK `eb `Zixi Dci Kv†RB i mvqubK `eb `Zixi mgq wftkl
 mZKZv Ae j æb Ki tZ nte| wbtgæ i mvqubK `eb `Zixi t h mKj cQvRb i mvqubK `eb `Zv mn `Zixi mewfbæ
 avc , t j v ebDv Kiv ntj v|

th mKj i mvqubK Dcv` tbi cQvRb Zvi cwi gvb (cQZ 1000 wj t cwbi Rb`)

µngK bs	i mvqubK Dcv` vb	Dcv` tbi i mvqubK mstKZ	cwi gvY
1	cUwkqvg nvBtW†Rb dmtDU	KH ₂ PO ₄	270 Móg
2	cUwmqvg bvB†UU	KNO ₃	580 Móg
3	K'vj wmqvg bvB†UU	Ca (NO ₃) ₂ . 4H ₂ O	1000 Móg
4	g`v†v†bmqvg mvj tDU	MgSO ₄ .7H ₂ O	510 Móg
5	B†W†UG Avqib	EDTA Iron	80 Móg
6	g`v†w†R mvj tDU	MnSO ₄ .4H ₂ O	6.10 Móg
7	ewi K G†w†W	H ₃ BO ₃	1.80 Móg
8	Kcvi mvj tDU	CuSO ₄ .5H ₂ O	0.40 Móg
9	A`vg†bqvg gwj e†UW	(NH ₄) ₆ Mo ₇ O ₂₄ .4H ₂ O	0.38 Móg
10	wRsk mvj tDU	ZnSO ₄ . 7H ₂ O	0.44 Móg

Stock Solution A %Zix: 1000 Móg K'vj wmqvg bvB†UU Ges 80 Móg EDTA Iron †K cwi gvc Kti 10 wj t
 cwbtZ `exfyZ Kti Stock Solution A %Zix Ki tZ nte|

Stock Solution B %Zix : cUwkqvg nvBtW†Rb dmtDU 270 Móg, cUwmqvg bvB†UU 580 Móg, g`v†v†bmqvg
 mvj tDU 510 Móg, g`v†w†R mvj tDU 6.10 Móg, ewi K G†w†W 1.80 Móg, Kcvi mvj tDU 0.40 Móg, A`vg†bqvg

gwj etWU 0.38 M0g, wRsk mvj tdu 0.44 M0g D³ i vmvqubK `eb` wj tK GK mvt_ 10 wj Uvi cwbttZ `exfZ Kti Stock Solution B %Zix KitZ nte|

nvBtWicubK cxiZi Kvhcubjx

nvBtWicubK Pvlvev` cxiZtZ `vcbr ubgvb tKSkj

nvBtWicubK cxiZtZ dmj Drcv`tb `vcbr ubgvb GKiu iæZcY⁹elq| mvari bZt `vcbrv gta` itqtQ M0b-nvDR, c0wv÷K-nvDR, wfbvBj -nvDR, cwj -Uvtbj , BZ`w` | M0b nvDfRi gva`tg Avgiv mviv eQi th tKvb mgq dmj Drcv`b KitZ cwi | G Qvov Avgiv c0wv÷K-nvDR A_ev wfbvBj -nvDfRi ev cwj -Uvtbj I Pvlvev` KitZ cwi | `f cwi mti `vj vb evoxi Qv` , evi v`v ev Ab`vb` tLvj v RvqMvq GB cxiZtZ Pvlvev` Kiv hvq| Zte M0b-nvDR ev M0vm-nvDfR LiP Zj bvqj K tekx| Zte Drcw` Z dmtji i bMZgvb gv dmtji Zj bvq AfbK fvj | Avgv` i t`tki AvM0x c0wvZkxj K.I.K c0wv÷K-nvDR `Zix Kti Kg LiP G cxiZtZ Pvlvev` KitZ cvti | nvBtWicubK cxiZtZ dmj Drcv`tbi Rb` ÷xtj i tu⁹ c0wv÷tki evj wZ, Ae`euZ c0wv÷tki tevZj , BZ`w` e`envi Kiv qvq| Zte tKvb cxiZtZ dmj Drcv`b Kiv nte Zvi Dci wbfP Kti `vcbr `Zix KitZ nte| mAvj b I mAvj b wvxb Dfq cxiZtZ 0xtj i tu⁹ e`envi Kiv hvq| ÷xtj i tu⁹ e`envi i cte⁹U⁹Gi gvts mv`v is w`tq c0j c w`tj fvj nq| dtj i vmvqubK `eb miwmi avZe c`vt`P ms`utk⁹AvmtZ cvtibv| tKvb Ae`vtZB gwiv Pv cov 0xtj i tu⁹ e`envi Kiv hvte bv| GKiu KvVi A_ev tj vvi tetAi Dci tu⁹ `vcbr Kiv thtZ cvti | AfbK mgq KvVi tetAi Dci ZvK Kti 2-3 wU tu⁹ emvtbv thtZ cvti | Gt⁹tt⁹ me0tg0evZvKi MtQi AvKvi Abjvqx dmj thgb 0teix, tj Um, K`vcumKvg BZ`w` MvQ wbtP I gvtsi ZvK Ges Dcti i ZvK kmv ev UtgtUv MvQ j wvvtbv thtZ cvti | GB t⁹tt⁹ Vertical Pvlvev` i Rb` Af RvqMvq AwK dmj Drcv`b Kiv hvte| mvari bZt Non-circulating Ges Circulating Dfq cxiZtZ tu⁹ `vcbr Kti dmj Drcv`b Kiv m0e| ÷xtj i tu⁹ mvari bZt 18-24 tMR M`vj fvbvBwRs mxU 0vvi `Zix KitZ nq hvi `N`03 wgt I c0` 90 tmgwt Ges D`PZvi 20-25 tmgwt ntZ nte| mAvj b cxiZtZ KKRxU `vcrtbi Rb` tKvb cKvi tj vvi cvZ tu⁹ gvts e`envi KitZ nqbv| wKs` mAvj b wvxb cxiZtZ tu⁹ Dci t`tk 5 tmgwt ev` ti tL tj vvi cvZ `vcbr KitZ nte| GB cvtZi Dci KKRxU `vKte Ges Rj xq `eb GB `tUi Dci `wvZ KKRxU i 5 tmgwt bxtP `vKte| AZtci tu⁹ wU tK GKiu tj vvi A_ev KvVi tdtgi Dci mgvfvte emvtZ nte|

mAvj b cxiZ (Circulating System) cxiZtZ M`vj fvbvBwRs Kiv tj vvi `Zix tu⁹ tK GKiu Stand Gi Dci `vcbr Kiv nq, Ges tu⁹ wU tK c0wv wU K cvbtci mrvvth` GKiu Tank Gi mvt_ h⁹ Kiv nq| GB Tank t`tk cvt0ui mrvvth` i vmvqubK `eb` wgvkZ Rj xq Lv` `eb w`tb KgctY` 8 (AvU) N0Uv Tray tZ mAvj b Kiv nq| M`vj fvbvBwRs tj vvi tu⁹ Dci KKR⁹mxU i gvts MtQi c0qvRbxq `iZi Abjvvti thgb- tj Um 20 x 20 tmt wgt UtgtUv 50 x 40 tmt wgt Ges ÷teix 30 x 30 tmt wgt `iZi MZ⁹KitZ nq| Dch⁹ eqtmi Pviv `uA (Sponge-block) mn H MtZ⁹ `vcbr KitZ nq| Pviv tivctbi ci U`vsK t`tk tu⁹ gta` Rj xq `eb cvt0ci mrvvth` c0Zw` b Kgct⁹ 8-10 N0Uv mAvj b KitZ nq| Gi gva`tg MtQi Aw` tRb mieivn ep⁹ Kiv nq| tu⁹ tZ Kgct⁹ 6-8 tmgwt cwb me mgq ivLtZ nte| mvari bZt c0Z 12-15 w` b Ašt Rj xq `eb tu⁹ tZ thvM KitZ nq| GB cxiZtZ me0R Drcv`tb pH Ges EC gvTv dmtj i Pwiv`i gta` ivLtZ nq| mvari Yfvte nvBtWicubK m cxiZtZ Drcv`tbi Rb` pH 5.8-6.5 Gi gta` ivLtZ nq| hw` pH Gi gvTv 7.0 Gi Dcti nq Zte Avqib, g`vsmvbR, gwj etWbvgrmn Ab`vb` gvBtLuv wvDwU t⁹U Afve cwj w⁹ttZ ntZ cvti | G t⁹tt⁹ nvBtWtKwi K GvW (HCl) A_ev dmdwi K GvW (HPO₄) ev HNO₃ w`tq tK KvswLZ gvTv ivLtZ nte| Avevi pH hw` 5.8 G tekx bxtP tbtg hvq Zte NaOH A_ev KOH w`tq pH wvqšY KitZ nte| EC Gi gva`tg Avgiv Rj xq `etY Lv` Dcv`vbi Dcv`wZi gvTv RvbtZ cwi | mvari bZt EC 1.5 - 2.5 ds/m Gi gta` ivLtZ nte| EC Gi gvTv hw` 2.5 ds/m Dcvti P⁹ hvq tm t⁹tt⁹ wei⁹ x cwb thvM KitZ nte| EC hw` 1.5 ds/m Gi bxtP P⁹ hvq Zte Nutrient solution `eb thvM Kti EC Gi gvTv 1.5 Gi Dci ivLtZ nte| c0Zw` b mKvj Ges wvKvj pH I EC wvUvti i mrvvth` cix⁹tt⁹ Kti pH Ges EC mgšQ (Adjust) KitZ nte|

mAvj b wvxb cxiZ (Non-Circulating System) cxiZtZ dmj Drcv`tbi Rb` tKvb `e` wZK cvt0u ev cwb i Tank Gi c0qvRb cto bv| GB cxiZtZ tu⁹ c0wv÷tki evj wZ, Ae`euZ tevZj , BZ`w` e`envi Kti me0R, dj , dj Drcv`b Kiv thtZ cvti | fvj fvte cwi `vi Kiv evj wZ, tevZj wKsev tu⁹ tZ Drcw` Z Pviv GKB cxiZtZ tvcbr KitZ nte| Pviv tivctbi cte⁹tevZj Rj xq `eb 0vvi Ggbfvte cb⁹KitZ nte hvZ KKRxU I Rj xq `etbi gvts

5-8 tmiq RvqMv duKv _vtK| Zte evj wZ ev tevZtj Pvi v j vMvtj tm t¶t¶t¶ evqyPj vPtj i Rb" AwZwi 3 3-4 wJ MZ©
i vLv ` i Kvi | GB c×wZtZ tKvb `e` jZK gUi , cvú ev cvBc e"envt i i c¶qvRb nqbn| dtj AvMbx Pvl xMY mntRB
evoxi Avtkcvtki tLvj v `vtb, evi v`vq, `vj vb evoxi Qv`, BZ"v` `vtb G c×wZ e"envi Ki tZ crti |

[we`wi Z Z_" Rvbvi Rb" memR wefvM, D`"vbZÉj MteI Yv tK` ; weGAvi AvB, Rqt` ecj , MvRxcj G
thvMvthvM Kivi Rb" Abtjiva Kiv ntj v|]

thvMvthvM Mi wKvbn

1| W. wR Gg G nwwj g, gL" `eÁmbK KgRZP, tgevbJ bs 01715179366

2| G tK Gg tmiq g ti Rv gwj K, cávb `eÁmbK KgRZP, tgevbJ bs 01711900256

eivei
gŁ ˆeÁmbK KgŔZŔI cÁvb
KwŁ cwı msLˆvb I AvB ım wJ kvLv
ewıı , Rqŕ ˆecj , MıRıxcj

welqt BARI I tqemvBU t_ŕK cŔB cŕkē DĒi |

Dŕj wŁZ wel tq Avcbvı m`q AeMwZ I cŕŕıRbxq e`e`v Mŕŕıbi Rb` Avcbvı tŕŕı Z BARI website t_ŕK cŔB cŕkē
(wKfıŕe nvBŕWıcbıK c×ıZ ˆZıx Kıv hvq ?) mˆúŕK Avqvŕ`ı gZıvgZ GZ` mŕ½ tŕŕı b Kıv nŕj v |

W. wR Gg G nwj g
gŁ ˆeÁmbK KgŔZŔ
mewR wefvM
D` ˆvbZĒıMŕel Yı tKŕ`^a
ewıı , MıRıxcj