



aho. tyaf fy tjj jji z ffsjjjd mDruiz Ald  
njhz ilkhdhWnt sffs eiyak elhj Jk

## Field Work Centre

j t i z g gul i r et kgu - 2015

**Term Examination, November - 2015**

juk :- 12 (2017)

ngs jpf tpay

Neuk :- 3.00 k zjjjahy qfs

mwTWjjyfs :

- \* vyyh tpdhff S fFk tpi l jUf.
- \* ckJ Rlnl z i z tpi ljjhsy vOJf.
- \* kifr ruahd tpi l f S fF ckJ tpi ljjhsy Gssb (x) , Lf.

gFji - I

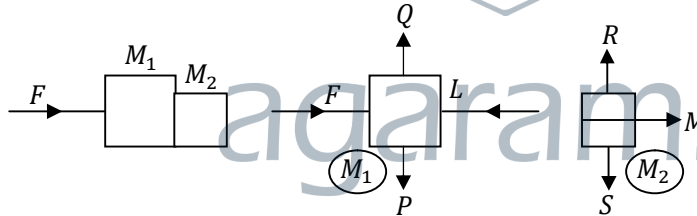
(01) Nfhz Nt fjjjd gukhdk vdd?

- 1)  $L$
- 2)  $LT^{-1}$
- 3)  $LT^{-2}$
- 4)  $T^{-1}$
- 5)  $T$

(02) 1g , oint z zpfif nfhz l , yjjjuda y juhR xdw dhy vLffggll thrigig ruahf FwjjjJ

- 1) 1.2 kg
- 2) 1.200 kG
- 3) 1.2 Kg
- 4) 1.200 Kg
- 5) 1.200 kg

(03)

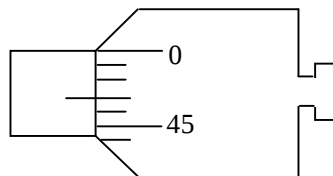


xU jpzTfs  $M_1 > M_2$  xggkhd fiil eyjjjy itffggllssJ.  $M_1$  kJ  $F$  vdDk fiiltir guNahfffgg Lk NghJ mjpy jhff kWjhff Nrhb ia FwggJ

- (A) F, L
- (B) L, M
- (C) P, Q
- , twWs ruahd J

- 1) A kILk
- 2) B kILk
- 3) C kILk
- 4) A, B
- 5) vyyhk

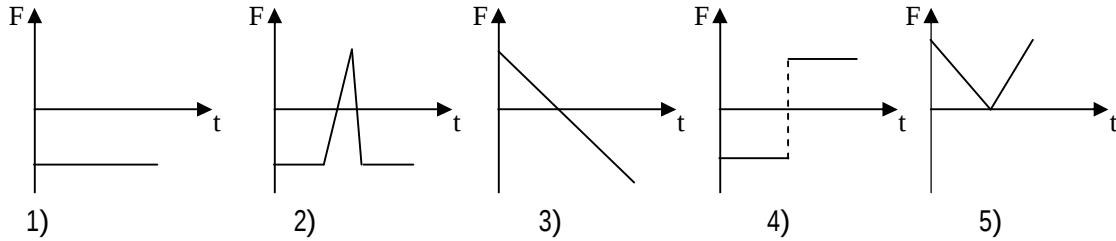
(04)



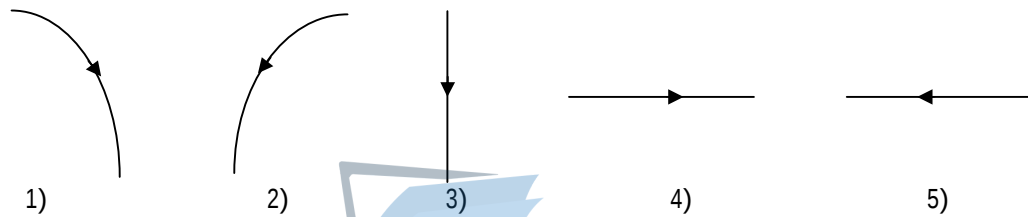
GrrpatO JzAk eiyay Ezkz jUffzprp xdw y mstiliag glk fhLLfdwJ vdd , Wjp thriggwF

- 1) 0.03 mm ia \$IINT z Lk
- 2) 0.03 mm ia fooff Nt z Lk
- 3) 0.47 mm ia \$IINT z Lk
- 4) 0.47 mm ia fooff Nt z Lk
- 5) 0.05 mm \$IINT z Lk

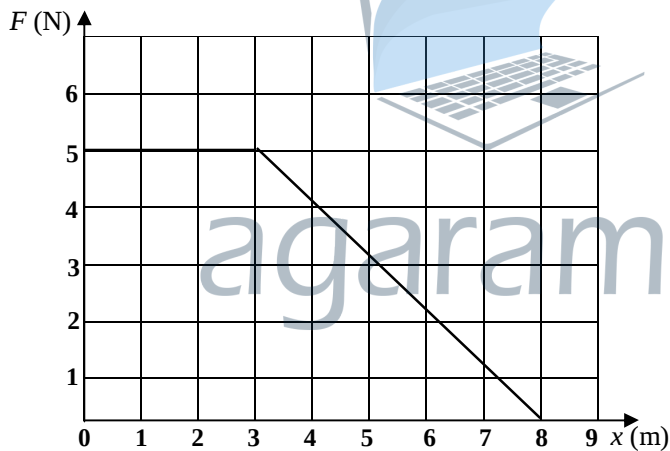
(05) J z f i f x d W e i y f F j j h f h c a u j j y U e J t p O e J e y j i j k s j d i k A l d m b j j g d N k n y O e j J . , j d N g h J n j h o w g l l t p i s A s t p i r i a f h l L t J



(06) f i l a h f k h w h N t f k U c l d t y g g f f k , a q f n f h z b U f F k t p k h d k x d W , U r k j j z p T f s h f (A,B) n t b j j J . m j y B e i y f F j j h f f o N e h f f , a q f M u k g j j J v d d B a p Y s s t u f S f F A a d , a f f k v t t h W N j h d W k



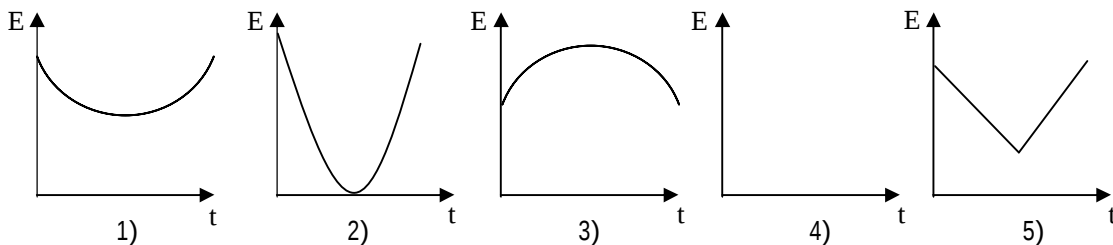
(07)



$x = 0$  x g g k h d f i l e y j j y X a t p Y s s  $5 \text{ kg}$  j p z p t y x U f i l t p i r F n j h o w g l t i j t i u G f h l L f d w J .  $x = 2 \text{ m}$  , y j p z p t d f j j v d d ?

- 1)  $1 \text{ ms}^{-1}$
- 2)  $2 \text{ ms}^{-1}$
- 3)  $\sqrt{10} \text{ ms}^{-1}$
- 4)  $\sqrt{5} \text{ ms}^{-1}$
- 5)  $3 \text{ ms}^{-1}$

(08) v w a g g h i j a y f i l a y  $45^\circ$  N f h z j J l d v w a g g l l J z f i f a d , a f f r f j a d (E) k h w i y N e u j J l d t i u f .



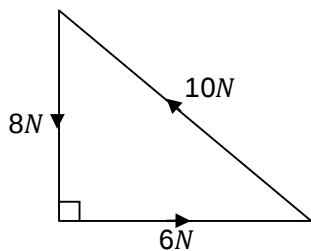
(09) cuhatww ffil epyjyy itffggll  $M$  jzTila Fww xdwF  $m$  jzTil esh , io , izffggllssJ. mjd kWKiday  $P$  vdDk filttir guNahffFk NghJ , ioahy Fwway Vwgljjggll , Otir vdd?

- 1)  $\frac{P}{M-m}$  2)  $\frac{PM}{M+m}$  3)  $\frac{Pm}{M+m}$   
4)  $\frac{PM}{M-m}$  5)  $P$

(10) xtnthdWk  $2cm$  jbgGss gyifjJzL  $0.01cm$  , oT vzzfifAila fUtahy msffggllJ. ,jd rjtj tO  $0.1\%$  Mf tUtjwF vjjid gyiffs NrujJ msffggll Nt zLk

- 1) 1 2) 2 3) 5  
4) 10 5) 100

(11)



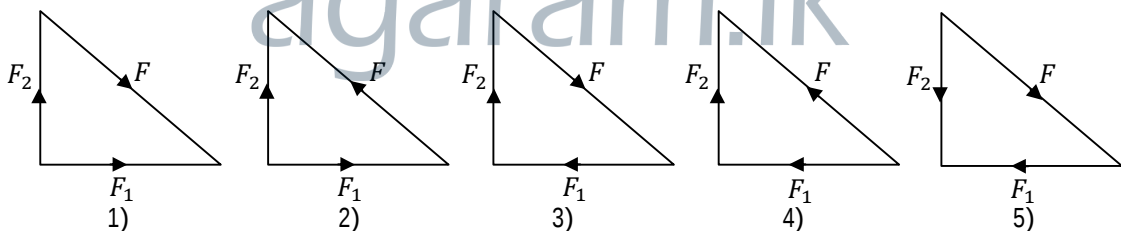
fhlggllss nrqNfhz KfNfhzpad gffqfs toNa  $8N, 6N, 10N$  vdDk %dW tirfs gff esqfSfF tffj rkdhf jhfFfdwd. gdtUk \$wWfis fUJf.

- (A) njhFjay tisas tir ,yiy  
(B) njhFjay , iz njhowgLk  
(C) njhFj rkeiyay czL

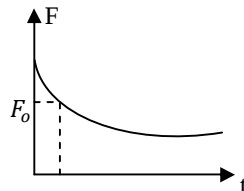
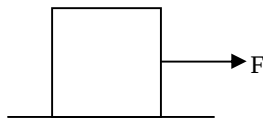
rupahd J

- 1) A, C kILk 2) A kILk 3) B kILk  
4) A, B kILk 5) VJk ,yiy

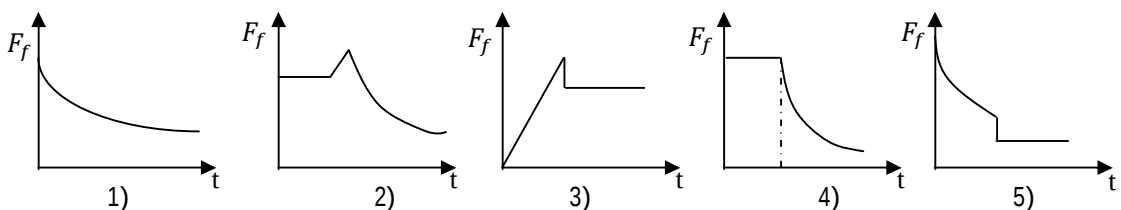
(12)  $F_1 > F_2$  vdDk tirfsd tisas tir  $F$  , id> fhtf\$lly Kiw %yk rupahf fhLtJ vggik?



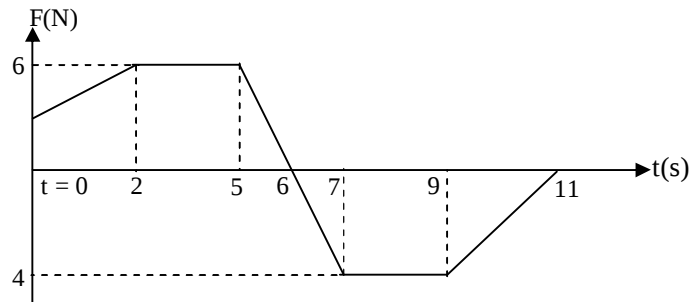
(13)



fulhd filjjsk xdwpy itffggll xU nghUs kJ  $F$  vdDk khWk filttir guNahffggllJ tiugpy fhlggllssJ.  $F_0$  vdgJ vyiy cuhaT tirahFk. nghUsy jhfFk cuhaT tiria  $F_f$  NeuJld fhLtJ



(14)



3 kg gđfflb xdwđ kJ Neu x jpir toNa jhfFk tpirad  $F_x$ , d NeuJld Md khwy gljjy fhlggLssJ.  $t=0$ , y gđfflb  $3\text{ms}^{-1}$  NtfjJld Neu x mrR toNa, aqf nfhz bUejjhađ  $t=11\text{s}$ , y mjd Ntfk vdd?

- 1)  $4\text{ms}^{-1}$                       2)  $-8\text{ms}^{-1}$                       3) XaT  
4)  $8\text{ms}^{-1}$                       5)  $-4\text{ms}^{-1}$

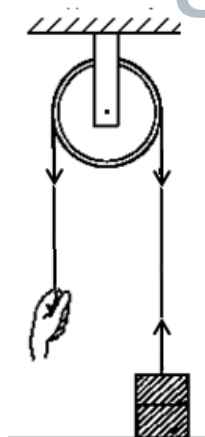
(15) igad xUtd flllk xdwđ crrayUeJ  $6\text{ms}^{-1}$  fllNtfjJld genjhdw vwfdwd. geJ flljjyUeJ  $12\text{m}$  tyjjy eyjjy tpejJ vdd flljjd cauk vdd?

- 1)  $12\text{m}$                       2)  $20\text{m}$                       3)  $120\text{m}$   
4)  $60\text{m}$                       5)  $72\text{m}$

(16) eujlhfjjd eu kljjyUeJ  $5\text{m}$  caujjyUeJ  $100\text{kg}$  jzTila kdjd Fjjj NghJ (Mukg Ntfk Grrak) euDs  $0.4\text{s}$ , aqf XatwF tejhd vdd eudhy msffgll jil tpir vdd?

- 1)  $1500\text{N}$                       2)  $2000\text{N}$                       3)  $2500\text{N}$   
4)  $3000\text{N}$                       5)  $3500\text{N}$

(17)



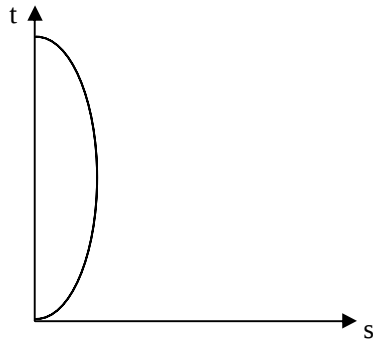
xggkhd fgg xdw ikajjD}lhf nryYk eyjj filarR gww Roy \$baJ, jd kJ Nghlgll, Nyrhd esh, ioad xU Kiday  $60\text{kg}$  jzT fllggLssJ. jzT fileyjjy XatyUfFk tifay itffg glJ. ioad kWKiday  $50\text{kg}$  jzTss kdjd  $1\text{ms}^{-2}$  MuKLfYld Nky Nehff VWk NghJ jzthy eyjjwF nfhLffggLk cijgG vdd?

- 1) Grrak                      2)  $500\text{N}$                       3)  $600\text{N}$   
4)  $50\text{N}$                       5)  $100\text{N}$

(18) gđtUk \$wWfis fUJf.

- (A) tpiAs tpir, Uggđ nghUsy mjd fjp mjpufFk  
(B) nghUsđ, affjjir khwwkilAk NghJ tpiAs tpirAk khwwkilAk  
(C) , aff rfjp xUik vdd mjd cejKk xUikahFk  
(D) , twwy ruahđJ  
1) A kllk                      2) A, B kllk                      3) B, C kllk  
4) vyyhk                      5) vJTk, yiy

(19)



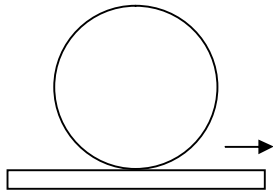
s – , lgnaurr

t – Neuk

NeuNfhIL , affjij Nkwnfhs Sk Jzpfif xdwpy mjd fzaqfs tiuG gFffggILssd. , J njhluhf ruahd \$wW

- 1) ruhru MuKLfy Grrpak
- 2) ruhru Ntfk Grrpak
- 3) Jzpfif ruhf mjffufFk Ntfjij cilaJ
- 4) JzpfifaJd Ntfk ruww Kiway mjffujjJ
- 5) , t tiuG rhjjkwwJ

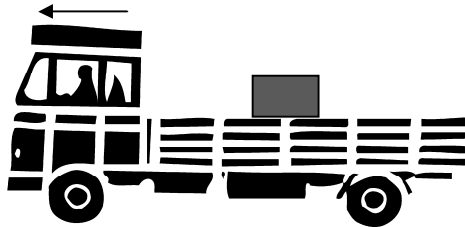
(20)



fulhd NkwgugGila gyifay NfhsK xdw itffggIL gljjy fhlbthW gyif tyggffkhf , Offggll NghJ NfhsK

- 1) NeuNfhIL , affjjy tyggffkhf , aqFk
- 2) NeuNfhIL , affjjy , lggffkhf , aqFk
- 3) NeuNfhIL , yffjjy tyggffkhfTk , lQRo Rowr , affjijAk Nkwnfhs Sk
- 4) NeuNfhIL , affjjy , lggffkhfTk , lQRo Rowr , affjijAk Nkwnfhs Sk
- 5) NeuNfhIL , affjjy tyggffkhfTk tyQRo Rowr , yffjijAk Nkwnfhs Sk

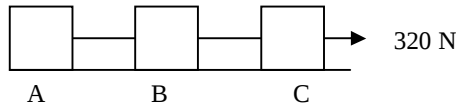
(21)



thfdjjy jweJ gdgffjjy 40kg jzPT xdw gdgff KidaYUeJ 5m Jujjy itffggILssJ. NkwgugGffSffilaYhd eiyay cuhaTFFzfk 0.15 Neu tjp xdwpy thfdk XatpyUeJ  $2ms^{-2}$  MuKLfYld , aqFfdwJ. thfdk vttsT Jjuk , aqFk NghJ jzPT thfdjjyUeJ tOk (nglbaJd msTfis Gwffdff)

- |         |         |        |
|---------|---------|--------|
| 1) 10 m | 2) 20 m | 3) 22m |
| 4) 25 m | 5) 12m  |        |

(22)



A, B, C v d D k F w w f s r k j z T m n f h z L s s d . , i t  $\frac{m}{10}$  j z T s s , U e s , i o f s A B , B C a h y , i z f f g g l L s s d . , i t c u h a t w w N k i r a y i t f f g g l L C a y 320 N f i l t i r g u N a h f f f g g L f d w J . , i o A B a y n j h o w g L k c a u , O i t v d d ?

- 1) 100 N
- 2) 110 N
- 3) 200 N
- 4) 210 N
- 5) 220 N

(23) 30 m c a u j j y U e J x U f y t o t l g g l l J . m N j N e u k , u z l h t J f y c a u j j d m b a y U e J e i y f F j j h f N k y N e h f f 30 ms<sup>-1</sup> f j A l d v w a g g b d , u z L k e y j j y U e J v t t s T c a u j j y x d i w x d w r e j f F k

- 1) 21 m
- 2) 22 m
- 3) 23 m
- 4) 24 m
- 5) 25 m



(24) v w n g h U s x d w e y j j y U e J v w a g g l L 2 s g d f i l A l d 30° r h a t Y k 3 s g d f i l a h f T k , a q f i a J v d d m j d M u k g f j i a A k m J v w A k N g h J f i l A l d m i k j j N f h z j i j A k f h z f .

- 1) 10 ms<sup>-1</sup> 60°
- 2) 20 ms<sup>-1</sup> 60°
- 3) 10 ms<sup>-1</sup> 30°
- 4) 40 ms<sup>-1</sup> 30°
- 5) 40 ms<sup>-1</sup> 45°

(25) x g g k h d f i l j s j j y c s s t h f d j j y , a e j u J g g h f f x d w n g h U j j g g l L s s J . J g g h f f e k l j j w F 10 r d d q f i s ( F z L ) R L f d w J . r d d k x d w d j z T 10 g R l g g L k . , i t f i l a h f 500 ms<sup>-1</sup> c l d R l g g b d 1000 kg j z T s s t h f d j j d M u K L f y v d d ?

- 1) 0.5 ms<sup>-2</sup>
- 2) 0.05 ms<sup>-2</sup>
- 3) 0.1 ms<sup>-2</sup>
- 4) 0.01 ms<sup>-2</sup>
- 5) 1 ms<sup>-2</sup>



aho. tyaf fytj jji z ffsjjjd mDruiz Ald  
njhz ilkhdhWnt sffs eiyak elhj Jk

## Field Work Centre

j t i z g gul i r et kgu - 2015

**Term Examination, November - 2015**

juk :- 12 (2017)

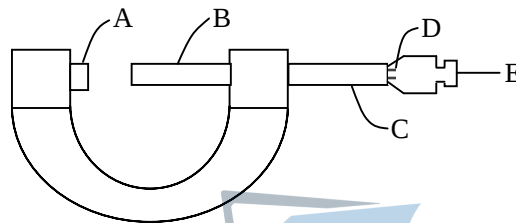
ngsjftpay

gFjj - II (A)

m i kgGf f l L i u t dhffs

ehd F t dhff S f Fk , jjhsNyNa t i l v O J f.

(01) (a)



Edkhz j jUF fzrrp d glk fhllggLssJ.

mjd ngau Fwffggll gFjfi sg ngauLf.

A - .....

B - .....

C - .....

D - .....

E - .....

- (b) i) Ntdau , Lffkhd x dwhy thrgG ngwggLti j t l Edkhz j jUF  
fzrrpahy thrgG ngwggLtJ mD\$ykhdJ mjid gdtUk  
jiygGfsy tpsfFf.

a) mstlbd nrkik .....

b) mstlbd czujwd .....

- ii) Ntzau , Lffp khday msff \$baJk Mdhy Ezkz j jUF  
fzrrpahy msff Kbaj mstLfs , uzL jUf.

.....

.....

- (c) i) fUtiag gadgLjj Kd eu nraa Nt z ba nrawghL vdd?

.....

- ii) gFjj C - I , y \$wpa nrawghlil vtthW nratu?

.....

.....

.....

(d) i) rfffyhffggll fkgiað esk f z pff Nt z bAssJ. , jwF ckfFj  
Nji tahd , dDnkhU msfFk fUt p vdd? ( , j dhy vLffggLk  
thrgig x vdf)

.....  
.....

ii) fkgiaðy Ezkz p j pUF f z prrpahy ngwggLk thrgG vdd?  
( , j i d Y vdf)

.....

iii) gFj p d(ii) , y \$wggll thrgig vLffr nraAk gbKiwfisj jUf.

.....  
.....

iv) NkNy juggll Fw aLfs rhugð fkgiað esjjwfhð njhluG vdd?

.....  
.....  
.....

(02) j pUgg Nfhlg hli lg gadgLj p r pW fy xdwð j p z p it (m) tiuG Kiw %yk  
J z p agglTssJ. , jwf hf k w w u Nfhy f j j p t s k G > gUkd njuejei wgb  
(mjd e i w w o) E}y J z Lfs vdgð jugglLssd.

a) i) , jwf hf nt s a p lggll gljij tiuf. (tyggffk fy)



ii) Nfhyð <ugG ikajjy fjjp t s k G i t f f g g l t y i y (e i w g g b >  
fyYld) f p i l a h f r k g g L j j y h k h ?

.....

b) k w w u Nfhy mjd <ugG ikajjy fjjp t s k G i t f f g g l l e i y i a f U J f .

i) f j j p t s k g w F k f y Y f F k i l a h d J } u k l o v d T k > f j j p t s k g w F k  
e w g g b f F k i l N a J } u k l v d T k n f h s f .

$l_o, l, w_o, m, g$  vdg t w W f f i l a h d n j h l u G v d d ?

.....

ii)  $l$  I r u h k h w y p a h f T k  $l_o$  I r u h k h w y p a h f T k f U j p t i u g w N f w w  
t b t j j y v O J f .

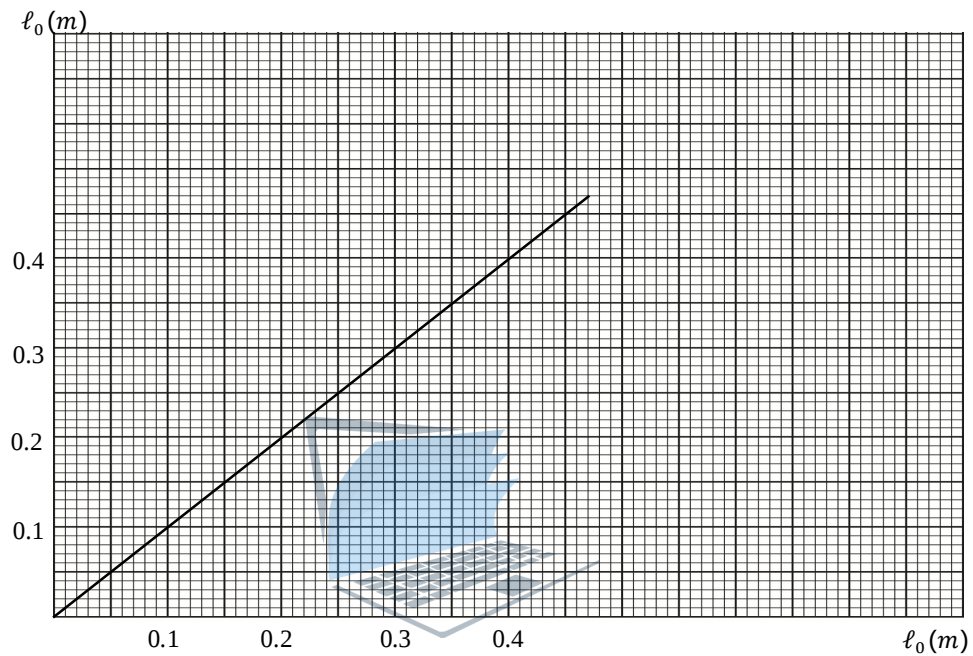
.....

iii)  $T$  և  $\ell_0$  -ի միջև կապը որոշե՞ք:

.....

.....

.....



c) i)  $T$  և  $\ell_0$  -ի միջև կապը որոշե՞ք:

.....

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.....

ii)  $M = 50 \text{ gram}$ ,  $g = 10 \text{ ms}^{-2}$  դեպքում  $T$  և  $\ell_0$  -ի միջև կապը որոշե՞ք:

.....

.....

(03)  $T$  և  $\ell_0$  -ի միջև կապը որոշե՞ք:

.....

.....

.....

- a) i) xU Gssay 14N,16N vdDk ,U tpirfs 60° ,ilntsay jhfFfdwd.  
1N = 2cm vdDk mstlffika ,t tpirfis tiuf.



- ii) tiuaggl gljy ,izfujij Gujji nraJ tpiAs tpirad gUkidf fzff.

.....

.....

.....

- b) i) ghlrhiy MaT\$ljy tpir ,izfu tjjia thagG ghuggjwF Njitahd cUggbfisg glbawLjJf. (xggkhd fggfs nfhz l tpir ,izfu gyif eiyfFr Rtuy nghUjjggILssJ)

.....

.....

- ii) fggfs xggkhd mrry nghUjjhtbd vdd tO VwgLk?

.....

- iii) ,iofs jzT \$bait vdd vdd tO VwgLk?

.....

.....

iv) , ioaḡḡ mikgig t iut jwF eu Nkwnfhs Sk gbK iwfs vdd?

.....

.....

.....

.....

.....

.....

.....

v) tḡḡia thagG ghuggjwfhf gadgLjjggll jḡzḡTfs KiwNa 100g,50g,40g vḡḡḡ jḡzḡT njuḡḡy css Fiw vdd?

.....

vi) gFjḡ V ,y FiwghL eḡtujḡḡ nraaggll guḡNrhjid kzLk nraag glNGhJ , ioḡsḡḡ mikgigf fwḡ mtwḡḡ tḡisAs fzḡffggllJ. mJ eḡiyfFjjhf Nky Nehffḡ mikejJ. , jwFuḡa fhuzk vdd?

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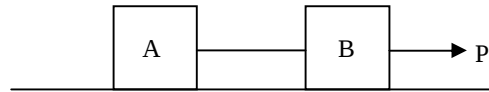
(04) a) i) cuhaTḡḡir vtḡḡif NkwgugGfsḡy njhḡwgLk?

.....

ii) vyiy cuhaT ḡḡir (F) nrtḡḡḡ kwjhffk (R) , twWffḡilNaahḡ njhluG vdd?

.....

b) i) xḡnḡḡḡWk 2kg jḡzḡTss ,U nrtḡḡḡ mbia nfḡzḡḡ Fwḡḡfs fulḡḡ Nkwguggḡy cssiḡḡ glk fhllfḡḡḡJ. ( , i z fFk , ioḡs ,Nyrḡḡ es , ioḡs) Nkwguggḡḡḡḡḡ eḡiyaḡay cuhaTfFzfk 0.1 MFk.



ii) , jnjhFjḡay css Fwḡḡ B ay jhfFk ḡḡirfisAk> , ioḡay jhfFk ḡḡirfisAk FwḡḡJffhlLf.



iii) njhFjia kLLklhf mirggjwF  $P$  ađ ,oTg gUkd vdd?

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.....

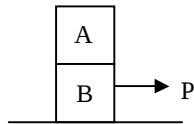
iv) njhFj  $1\text{ms}^{-2}$  MuKLfYld ,aqFfdwJ (tyggffk) vyiy cuhaT tpir gUkd ,afftay cuhaT tpirf rkd vDTk vLffTk jwNghJ  $P$  ađ gUkd vdd?

.....

.....

.....

v) jwNghJ Fwwfs ,uzLk xdwDnky xdw itjJ gpi zffggLssJ. njhFjia kLLklhf mirggjwF Njitahd ,oT tpir vdd?



.....

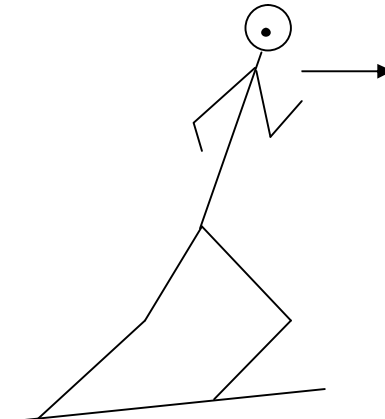
.....

vi) gFjfs (b ii, b iv) ,y ngww tilfsyUeJ cuhaT tpir Nkw guggsty vtthW jqfAssJ?

i) Nkwgb Fwwfsy xdw eiyfFJJ fulhd Rtuy njhlitjJ ftilahd  $P$  vDDk tpir guNahffggLfdwJ. Fww XatYssJ.  $P$  ađ gUkd mjffufFk NghJ mjy css cuhaT tpirad gUkdđ VwgLk khwwk vdd?

.....

ii) KdNdhff (tyk) XLk xUtud fhyfsy jhfFk cuhaT tpirfis Fwff.





aho. tyaf fytj jji z ffsjjdmDruiz Ald  
njhz ilkhhdWnt sffs eiyak elhj Jk

## Field Work Centre

j t i z g gul i r et kgu - 2015

**Term Examination, November - 2015**

juk :- 12 (2017)

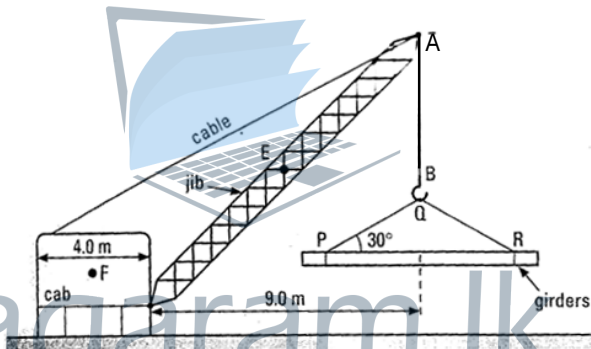
ngsjpftpay

gFj - II (B)

f l L i u t d h f f s

v i t N a D k 2 t d h f f S f F t j i l j U f.

- (01) (a) i) xU jstpirj njhFj tpirfs rkeiyay ,Uggjwfhd egejidfisf \$Wf.  
ii) tpiSAs tpirjjUggk , i z njhgwLk njhFj fSffpi lNaahd , U NtWghLfs jUf. (tpiSAs tpir nttNtW Gss gwpa tpirjjUggk Mfad)



xtnthdWk 500 kg jzTss , UkGr rllqfis ghukJ}ff J}fFti jg glk fhLLfdwJ.

ghuj J}ffa d i fggFj (jib) 2500 kg jzTilaJ

ghukJ}ffa d t z b (cab) 20 000 kg jzTilaJ. , twwd <ugG ikaqfs mtwwd eLgGssifshd KiwNa E, F MFk. nfhOff tlik vdg twwd jzTfs Gwffz pffjff.

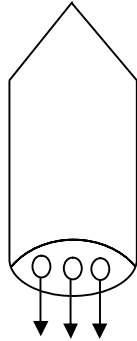
- i) j d xU rlik njhqftl gglLss NghJ tlik AB ad , Oitiaf fzff  
ii) gFj I , y \$wggll eiyay tlik PQR , d , Oitiaf fhzf.  
iii) gljjy fhlggl gukhz qfSld i fggFj cssJ. , j d NghJ ghukJ}ff kllklhf ftOk eiyay cssJ v d tlik AB ay css , Oitiaf fzff.  
iv) fhlggl eiyay ghukJ}ff ftphky J}ff \$ba , UkGr rllqfs d cauejglr v z z f i f i a f z f f.

- (b) i) gFj (iv) , y css eiyay cau v z z f i f a h d rllqfSld ghuk J}ffAss NghJ tzbay njhgwLk nrttd kwjhffjij Fwjj fhLLf. (gljij ckJ tpijjhsy gUklhf tiueJ)  
ii) nrttd kwjhffg gUkd vdd?

iii) gFj (iv) ,y fzjjj cauejglr rllqfsd vz zpfifia tpl \$ba  
vz zpfifAss rllqfs VwggL caujjyUeJ foNehff MuKLfYld  
,wffggLk NghJ ghuk J}ff ftphky ,Uff fhzggllJ. ,jwfhd  
fhuzk vdd?

(c) rpyYfs nghUjjggll ghukJ}ff rllqfis J}fEk NghJ nrttf mbiaf  
nfhzl eWjjjfs fNo ,wffggL mit eyjjjy njhlitffggL ghukJ}ff  
njhompwLk ,jwfhd fhuzk vdd?

(02)



nrakjp xdiw RkeJ nrytjwfhf  $5 \times 10^3 \text{ kg}$  jzTss  
tznst uhffl xdw mjd VTjsjjy eiyfFjjhf  
nghUjjggLLssJ. mjd mbaý css  $4 \text{ m}^2$  FWfEntlLg  
guggd m ntsaD}lhf ntggkhd tsia fNo jsStjd  
%yk NknyOfdwJ. ntggkhd tsad mlujj  $1.25 \text{ kgm}^{-3}$

a) Jthujjd F. nt. g – A ntggtsad mlujj  $\rho$  Jthuk rhughf ntggts  
ntsNawwggLk fj  $U$  vdd

i) myF Neujjy ntsNawwggLk ntggtsad fdtstwFuþa Nfhitia  
jUf.

ii) ntggkhd tsfF nfhlffggll cijggd gUkidAk jirAk fhz f.

b) i) vdd fjAld ts ntsNawwggLk NghJ kllkllhf uhffl fskGk  
jUthaý fhzggLk

ii) JthujjD}lhf  $120 \text{ ms}^{-1}$  fjAld ntggts ntsNawWk NghJ uhffl  
vdd MuKLfYld ,aqf MukgfFk?

iii) GwggLL 20 s ,d gd uhfflbd Ntfk vdd?

c) i) GwggLL 20 sgld uhfflbyUeJ rWJ zpfif (uhfflbd jzTld  
xggLkNghJ jzpit Gwffzffyhk) tOfdwJ.

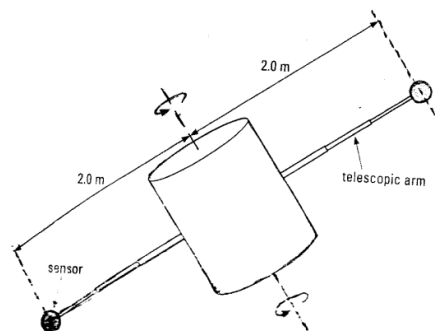
a) Jzpfifað NtfNeutiuG

b) uhfflbd Ntf Neu tiuG

c) uhffl rhughf Jzpfifað NtfNeu tiuG vdgtwiw tiuf.

(NkyNehffa Ntfjjir Neu vdf nfhsf)

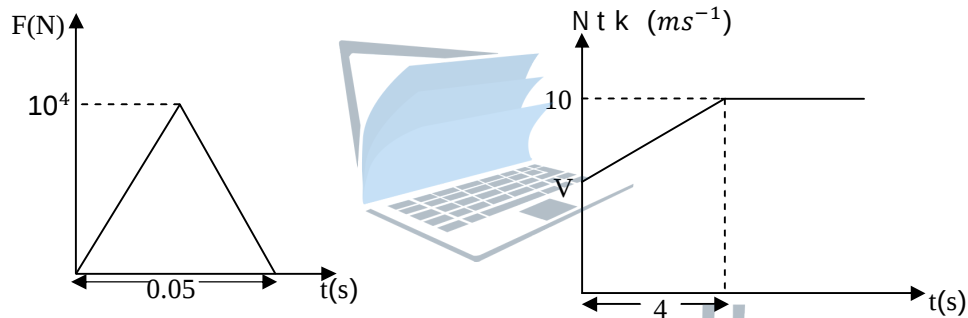
d) RwWgghijay tpggll nrakjp  $2.5 \text{ kg}$   
jzTss 2 czufisf nfhzLssJ. czu  
xdwð jzT  $2.5 \text{ kg}$  , it nrakjað  
mrrpyUeJ  $2 \text{ m}$  Jujjy eWjjggLLssd.  
nrakjp mjd mrRggww  $0.10 \text{ rads}^{-1}$  vdDk  
Nfhz fjAld #oyfdwJ. czuad  
, izgG gFjað jzpit Gwffzffyhk  
czu nrakjað nghUeJkhW Nkhllhu  
, izgGf fkgia cs ,Offf\$baJ.  
Nkhllud fljJt jUggk Gwffzff  
\$baJ. mrRggww nrakjað rllJt  
jUkGk  $100 \text{ kgm}^2$



, i z gffkg KO ikahf ellggll eiyay (2m)

- i) njhFjajd rljJt jUggk vdd
- ii) njhFjajd Rowr , affrfj vdd
- iii) , i z gffkgfs cs, Offggll czufs mrRld nghUeJk eiyay Nfhz fj vdd
- iv) gFj (iii) , y css eiyay Rowr , affrfj vdd?
- v) gFj (ii), (iv) , y rfj NtWgLtjwF vdd fhu z k
- vi) gFj (iii) , y css eiyay vdd gUkDss KWffjij gU NahfjJ 10 s , y  $0.1 \text{ rads}^{-1}$  vddk Mukg Nfhz fjia ngwyhk?

(03) 100m Xllggeja Xlltud xUtd 0.05s MukgFk Fwffis cijjJ MuKLf khwh NtfjJld geajij Kbffdwhu. FwffSfF filahf toqfja cijjG> mtud Ntfk vdgd NeuJld khWtij tiuGfs fhllfdwd. geija tudjd jzT 50 kg



- a) eAlldd , aff tijfs %diwAk jUf.
  - i) Fwffis tll , aqf MukgFk fj vdd?
  - ii) tuu nfhz bUej MuKLfyd gUkd vdd?
  - iii) geajij Xb Kbff vLjj nkhjj Neuk vdd?
  - iv) MuKLfK fhyggFjajy nraaggll nghwKiw Ntiy vdd? (jiltirfis Gwffzff)
- b) ,ggejajjy gqNfww ,uzlhtJ tud xUtd KjyhtJ tud vLjj NeuJJy jhDk Fwfia cijjJ  $4.5 \text{ ms}^{-1}$  vddk Mukg Ntfjij ngwW 5 s fsy  $10.5 \text{ ms}^{-1}$  vddk Ntfjij ngwW gd khwh NtfjJld Xb Kbjjhd.
  - i) geajij Kjyy xb Kbjjtu ahu?
  - ii) Kjyy geajij Kbggtu KbTfNfhlii flfFk NghJ kwwtud KbTf NfhbyUeJ vttsT J}ujjy cssdu
  - iii) Gwggll , ilay xUt iu xUtu kwwtu Kejr nrytjhf ,ggejak mikejJ (khwh NtfjJld ,UtUk nryYk NghJ) vdd KbTf NfhbwF vttsT J}ujjwF , k Kejr nryyy eiIngwWUejd.