छत्तीसगढ़ माध्यमिक शिक्षा मण्डल, रायपुर

lEiy&i'u i=

d{kk xii oh

foKku d rRo

¼fo|kfpr iHkkx½

NÙkh lx< ek/;fed f'k{kk e.My] jk;iqj

i'u & i= dh ;ktuk

Scheme of Question Paper

fo"k;&& foKku d rRo ¼631½ i.kkd % 75

le; % 3 ?kV

ijh{kk % gk;j ld.Mjh ¼12oh½

¼v½ 'k{kf.kd mnn'; d vulkj eku

(A) Weightage as per Educational objective:

lO ØO	mnn';		vd	ifr'kr
1-	Kku (Knowledge)		40	53-3%
2-	vock/k (Understanding)		26	34-6%
3-	vui;kx ,o dk'ky (Application & Skill)		09	12-1%
		;kx	75	100%

¼c½ bdkbokj vdk dk eku

lO0Ø0	bdkb dk uke	bdkb ij vkcfVr vd	i'u&i= d ik:i vulkj vkcfVr vd
1-	idk'k	12	12
2-	fo|r pEcd	05	05
3-	fo|r /kkjk dk m"eh; iHkko	07	07
4-	dfyy dkykbM	04	04
5-	vk;rukRed fo'y"k.k	05	05
6-	vRij.k	05	05
7-	dkcfud vdkcfud ;kfxdk d uke	06	06
8-	ckxokuh	08	08
9-	ikne dkf;dh ,o ikni dy	06	06
10-	ok"ikRltu ,o idk'k l'y"k.k	05	05
11-	ik/kk e 'olu	04	04
12-	thok.k foKku	08	08

¼l½ dfBukbZ Lrj (Difficulty Level)

lO ØO	mnn';	vd	ifr'kr
1-	ljy (Easy)	32	42-6%
2-	vkSlr (Average)	31	41-3%
3-	dfBu (Difficult)	12	16-1%
	;kx	75	100%

¼n½ i'ui= fn'kk fun'k ,oa fodYi ;kstuk %&

(Instruction's & Scheme of Option for Question Paper)

- oLrfu"B i'u e ¼05½ cgfodYih; i'u rFkk ¼05½ fjDr LFkku dh ifr@mfpr tkMh cuk, dk i'u fn;k tkoxk vkj ;g iR;d lV e i'u Øekd 1 gkxk A
- iR;d lV e 1] 2 ,oa 3 vdk d i'uk e fHkUurk jgxh A leLr 04 vd ;k bll vf/kd vdk d y?kmÙkjh; rFkk nh?kmÙkjh; i'uk e fodYi fn;k tkuk g A fodYi i'u mlh bdkbZ l rFkk leku mnn';k d jgx A 04 vd ;k bll vf/kd vdk d i'u iR;d lV e ,d leku jgx A
- vf/kdre mÙkj lhek vfry?kmÙkjh; ½2 vd@30 'kCn½ ¼3 vd@50 'kCn½
  y?kmÙkjh; ¼4 vd@75 'kCn½ ¼5 vd@150 'kCn½
  nh?kmÙkjh; ¼6 vd ;k vf/kd@250 'kCn½

i'u & i= dk CyfiUV

Blue Print of Question Paper

fo"k;%& foKku d rRo ¼631½ i.kkd % 75

le; % 3 ?kV

ijh{kk % gk;j ld.Mjh ¼12oh½

bdkbZ l-Ø-	bdkbZ	bdkbZ ij vkcfVr vad	vadkj i'u							dy i'u
			1 vad	2 vad	3 vad	4 vad	5 vad	6 vad	6 vad ;k bl l vf/kd	
1	idk'k	12	1	1	1	&	&	1	&	12
2	fo|r pEcd	5	1	2	&	&	&	&	&	5
3	fo|r	7	&	&	1	1	&	&	&	7
4	dfyy dkykbM	4	&	&	&	1	&	&	&	4
5	vk;rukRed fo'y"k.k	5	&	1	1	&	&	&	&	5
6	mRij.k	5	1	&	&	1	&	&	&	5
7	dkcfud vdkcfud ;kfxdk d uke	6	4	1	&	&	&	&	&	6
8	ckxokuh	8	&	&	1	&	1	&	&	8
9	ikni dkf;dh ,o ikni dy	6	1	&	&	&	1	&	&	6
10	ok"ikRl tu ,o idk'k l'y"k.k	5	&	&	&	&	1	&	&	5
11	ik/kk e 'olu	4	&	&	&	1	&	&	&	4
12	thok.k foKku	8	2	&	&	&	&	1	&	8
	;kx	75	**10**	**5**	**4**	**4**	**3**	**2**		**19/75**

Set - A

gk;j ld.Mjh Ldy lVhfQdV ijh{kk

Higher Secondary School Certificate Examination

lEiy&i'u i=

SAMPLE PAPER

fo"k; ¼& (Subject) - foKku d rRo **le; 3 ?k.Vk (Time- 3 Hrs)**

d{kk ¼& (Class) - ckjgoh ¼12oh½ **i.kkd 75 (M.M.)**

(Instruction) & ¼fun'k½

1- lHkh i'u gy djuk vfuok;g A

Attempt all the Questions

2- i'u Øekd 01 e 10 vd fu/kkfjr g A nk mi[k.M g A [k.M ^^v** e 05 cgfodYih; i'u rFkk [k.M ^^c** e 05 fjDr LFkkuk dh ifr vFkok mfpr lc/k tkfM, A iR;d i'u d fy, 1 vd vkcfVr g A

Q. No. 01 Carries 10 Marks. There are two sub-sections, Section A is Multiple choice carries 05 marks and section B is fill in the blanks or match the column carries 05 marks.

3- i'u Øekd 02 l i'u Øekd 06 rd vfr y?kmRrjh; i'u g A iR;d i'u ij 02 vd vkcfVr g A mRrj dh vf/kdre 'kCn lhek 30 'kCn A

Q. No. 2 to 06 are very short answer type question & it carries 02 marks each. Word limit is maximum 30.

4- i'u Øekd 07 l i'u Øekd 10 rd y?kmRrjh; i'u g A iR;d i'u ij 03 vd vkcfVr g A mRrj dh vf/kdre 'kCn lhek 50 'kCn A

Q. No. 07 to 10 are short answer type question & it carries 03 marks each. Word limit is maximum 50.

5- i'u Øekd 11 l i'u Øekd 14 rd y?kmRrjh; i'u g A iR;d i'u e vkrfjd fodYi g vkj iR;d i'u ij 04 vd vkcfVr g A mRrj dh vf/kdre 'kCn lhek 75 'kCn A

Q. No. 11 to 14 are short answer type question & it carries 04 marks each. Each question has internal choice. Word limit is maximum 75.

6- i'u Øekd 15 l i'u Øekd 17 rd nh?kmRrjh; i'u gA iR;d i'u e vkrfjd fodYi g vkj iR;d i'u ij 05 vd vkcfVr gA mRrj dh vf/kdre 'kCn lhek 75 'kCn A

Q. No. 15 to 17 are long answer type question & it carries 05 marks each. Each question has internal choice. Word limit is maximum 75.

7- i'u Øekd 18 l i'u Øekd 19 rd nh?kmRrjh; i'u gA iR;d i'u e vkrfjd fodYi g vkj iR;d i'u ij 06 vd vkcfVr gA mRrj dh vf/kdre 'kCn lhek 150 'kCn A

Q. No. 18 to 19 are long answer type question & it carries 06 marks each. Each question has internal choice. Word limit is maximum 150.

[k.M ^v* @ Section A

**i'u 1 ¼v½ & lgh fodYi pudj fyf[k;s ** ¼1 x 5 = 5½ 5 vd

Write correct choice -

(i) dkij lYQV bl jx dk fØLVyh; inkFk g (

¼v½ uhy jx] ¼c½ yky jx

¼l½ lQn jx ¼n½ ihyk jx

Copper Sulphate is a crystalline substance of this colour ;

(a) Blue (b) Red

(c) White (d) Yellow

(ii) vkfu;e Dykjkbd bl jx dk jonkj inkFk g (

¼v½ lQn jx ¼c½ yky jx

¼l½ ihyk jx ¼n½ uhyk jx

Ammonium Chloride is granular substance of this colour;

(a) White (b) Red

(c) Yellow (d) Blue

(iii) ,slk foy;u ftlesa FkksMh ek=kk esa vEy ;k {kkj feyk nus ls mlds pH esa dkbZ ifjorZu ugh gksrk g] og dgykrk g A

¼v½ cQj foy;u ¼c½ vEyh; cQj

¼l½ {kkjh; cQj ¼n½ vEyh; {kkjh; cQj

A solution, is which a little quantity of acid or base is mixed then there is no change in its pH, is called ;

(a) Buffer Solution (b) Acidic Buffer

(c) Alkaline buffer (d) Acid-base buffer

(iv) ijkl.k dh fØ;k ble gksrh gA

¼v½ Bksl e ¼c½ nksa e

¼l½ xSl e ¼n½ lHkh e

Convection takes place is-

(a) Solid (b) Liquids

(c) Gases (d) All above

(v) ik/kk e 'olu dh fØ;k bl le; gkrh g A

¼v½ fnu e ¼c½ jkr e

¼l½ 'kke e ¼n½ nkigj e

Respiration in plants takes place in this period of time;

(a) Day (b) Night

(c) Evening (d) After noon

[k.M ^c* @ **Section B**

¼c½ **fjDr LFkkuk dh ifr djk &** ¼1 x 5 = 5½ 5 vd

Fill in the blank -

(i) dej dh jhy e cuk ---------- okLrfod rFkk NkVk gkrk gA

.....formed in the roll of camera is real and small.

(ii) LFkk;h pEcd ---------- l cuk;k tkrk gA

Parmanent magnet is made from .....

(iii) ,l inkFk tk fdlh ---------- dh xfr dk iHkkfor djr g ml mRijd dgr g A

A substance which influence the speed of any ..... is called a catalyst.

(iv) vekfu;e Dykjkbd dk ---------- dgr g A

Ammonium chloride is also called .....

(v) ik/k dh dkf'kdk fHkRrh ---------- dh cuh gkrh gA

The cell wall of plant is made up of . .....

i'u 2& ikjn'kh ,o vikjn'kh oLr, fdl dgr g \ 1$1 = 2 vd

What is called transparent and transluscent objects ?

i'u 3& ØkM fdl dgr g A lgh mRrj ij ¼2½

What is called Crode ?

i'u 4& pEcdh; {k= dh rhork fdu ckrk ij fuHkj djrh g \ ¼2½

On what things intensity of magnetic field depends ?

i'u 5& lpd fdl dgr g \ ¼2½

What is an indicator ?

i'u 6& vYdkgy dk 0;kikfjd uke o nk x.k fyf[k; A ¼2½

Write the proffesional name of alcohol along with its two properties.

i'u 7& ty d fu;e fyf[k; A ¼dkbZ rhu½ ¼3½

Write the Joule rule (any three)

i'u 8& vuekiu dh fØ;k e lpd dk D;k egRo gA fdUgh nk lpdk d uke fyf[k;A

What is the importance of indicator in the process of titration ? Write the name of any two indicators. ¼3½

i'u 9& 'k) vkj v'k) o.kØe e dkbZ nk vUrj fyf[k; A ¼3½

Write any two differences between pure and impure spectrum.

i'u 10& xg okfVdk yxku d fdUgh rhu mnn';k dk fyf[k; \ ¼3½

Write any three objectives of Planting Kitchen garden.

i'u 11& fuEu dk mnkgj.k lfgr le>kb; & ¼2$2¾4½

mRijd fo"k] mRijd mRlkgd

Explain the following with example-

Catalytic Poison, Catalytic Promotor

^^vFkok OR^^

mRij.k D;k gA fdUgh nk mRijdk d uke o mi;kx fyf[k; A 2$1$1=¼4½

What is catalysis ? Write the name and use of any two catalysists.

i'u 12& vkDlh ,o vukDlh 'olu e dkbZ pkj vrj fyf[k; A ¼4½

Write any four differences between anerobic and anerobic respiration.

^^vFkok OR^^

'olu o idk'k l'y"k.k e dkbZ pkj vrj fyf[k; A 1$1$1$1=¼4½

Write any four differences between respiration and photosynthesis.

i'u 13& dkykbMh foy;u d dkbZ pkj x.k fyf[k; 1$1$1$1=¼4½

Write any four properties of colloidal solution

^^vFkok OR^^

dkykbMh foy;u d dkbZ pkj mi;kx fyf[k; A 1$1$1$1=¼4½

Write any four uses of colloidal solution.

i'u 14& fo|r cYo dk ukekfdr fp= cukdj mldh jpuk dk o.ku dhft, A 2$2=¼4½

Describe the construction of an electric bulb with the labelled diagram.

^^vFkok OR^^

fo|r bLrjh dk ukekfdr fp= cukdj mldh jpuk dk o.ku dhft,A 2$2=¼4½

Describe the construction of an electric iron with labelled diagram.

i'u 15& i;kx }kjk fl) dhft, fd idk'k l'y"k.k dh fØ;k e O_2 xl fudyrh gA

Prove experimentally that oxygen gas is evolved during photosynthesis. 2$3=¼5½

^^vFkok OR^^

ok"ikRl tu fØ;k d fy; i;kx fyf[k; A ¼5½

Write an experiment for transpiration.

i'u 16& ckxokuh e mi;Dr fuEu midj.kk dk fp= cukdj mudh mi;kfxrk fyf[k;A xrh] QkoMk (2½+2½=5)

Write the utility of the following equipments with diagram used in the gardening.

GAINTEE, Phawada (Spade)

^^vFkok OR^^

ckxokuh e flpkb ,o ÑUru d dke e vku oky fuEu ;=k dk fp= cukdj mudh mi;kfxrk fyf[k; A

gtkjk] gfl;k (2½+2½=5)

Write the utility of the following equipments with diagram used in the irrigation and pruning-

HAZARA, SICKLE (Hansiya)

i'u 17& ØlhQjh dy dk fuEu fcUnvk ij o.ku dhft; A 2$1$2=¼5½

1- i"i o.ku] 2- i"i l=] 3- vkfFkd egRo ¼dkb nk½

Describe the family 'CRUCIFERAE' on the following points-

1. Flower description, 2. Floral formulla,
3. Economic importance (any two)

^^vFkok OR^^

lkyulh dy dk fuEu fcUnvk ij o.ku dhft; A 2$1$2=¼5½

1- i"i o.ku] 2- i"i l=] 3- vkfFkd egRo ¼dkb nk½

Describe the family 'SOLONACEAE' on the following points-

1. Flower description, 2. Floral formulla,
3. Economic importance (any two)

i'u 18& l{en'kh dk fuEu fcUnvk ij o.ku dhft , A 3$3=¼6½

dk; fof/k] fl)kr

Describe about microscope on the following points -

Working method, Principle

^vFkok OR**

iPNk;k ,o miNk;k d vk/kkj ij l;xg.k ,o pUnxg.k dk o.ku dhft ; A

Discribe about solar and lunar eclipse on the basis of umbra and penumbra.

3$3=¼6½

i'u 19& fdUgh 6 ykHknk;d thok.kvk dk vkfFkd egRo fyf[k; A (1x6=6)

Write about economic importance of any six useful bacteria.

^vFkok OR**

fdUgh rhu ekuo jkx mRiUu dju oky thok.k ,o rhu ikni jkx mRiUu dju oky thok.k dk uke ,o mUl mRiUu gku oky jkxk d uke fyf[k, A (1x6=6)

Write the name of any three human and three plant diseases causing bacteria along with the name of disease caused by them.

&&&00&&&

^lEiy mRrj*

mRrj 1 ¼v½& lgh fodYi %& ¼1 x 5 = 5½ 5 vd

(i) ¼v½ uhy jx

(ii) ¼v½ lQn jx

(iii) ¼v½ cQj foy;u

(iv) ¼c½ nok e

(v) ¼c½ jkr e

¼c½& fjDr LFkku %& ¼1 x 5 = 5½ 5 vd

(i) ifrfcc

(ii) bLikr

(iii) jklk;fud fØ;k

(iv) uklknj

(v) lY;ykt

mRrj 2& ikjn'kh ,o vikjn'kh oLr, %& 1$1 = 2 vd

ikjn'kh oLrvk e idk'k dk vf/kdk'k Hkkx vkjikj tk ldrk g] mnkgj.k & dkp] gok] ty vkfn A tcfd vikjn'kh oLrvk e idk'k vkjikj ugh gkrk g] tl&ydMh] iRFkj vkfn A

mRrj 3& ØkM & ifjHkk"kk ¼i.k lgh mRrj ij 2 vd½

pEcdh; {k= dh rhork c<ku d fy, dMfy;k dk ue ykg dh ckjhd NMk d pkjk vkj yiVk tkrk gA bl idkj dh ykg dh NMk dk ØkM dgk tkrk gA

mRrj 4& pEcdh; {k= dh rhork %& ¼i.k lgh mRrj ij 2 vd] vk/k v/kj mRrj ij vd u fn; tk;½ ¼2½

pEcdh; {k= dh rhork dMfy;k dh l[;k] chp dk ek/;e] vkj fo|r /kkjk dh rhork ij fuHkj djrh gA

mRrj 5& lpd fdl dgr g A ¼i.k lgh mRrj ij 2 vd½ ¼2½

vuekiu dh vfre fcUn dk lpd fcUn dgr g] tk fdlh jlk;u fo'k"k d feyku ij vfre fcUn ikIr gkrh g] ml lpd dgr g A

tl & fQukY¶Fkyhu vFkok feFkkby vkjUt A

mRrj 6& vYdkgy dk 0;kikfjd uke o nk x.k ¼2½

0;kikfjd uke 'kjkc o okbu] fLiV

x.k & ehBh xFk ikb tkrh gA

;g Toyu 'khy inkFk gA

mRrj 7& ty d fu;e %& ¼iR;d fu;e ij 1 vd½ ¼1x3¾3½

ty u m"ik mRiknu d rhu fu;e crk; g %&

1½ fdlh pkyd e fHkUu ioyrk dh /kkjk; ,d fuf'pr le; rd iokfgr dju ij mRiUu m"ek /kkjk e ox d lekuikrh gkrh g vFkkr M α 1^2

2½ ,d gh ioyrk dh /kkjk ,d fu;r le; rd fHkUu fHkUu ifrjk/kk d pkydk e iokfgr dj rk mRiUu m"ek H pkyd d ifrjk/k R d lekuikrh gkrh g vFkkr H α R

3½ fdlh pkyd e ,d gh ioyrk dh /kkjk fHkUu fHkUu le; rd iokfgr dj rk pkyd e mRiUu m"ek le; t d lekuikrh gkrh g vFkkr M α t

mRrj 8& vuekiu dh fØ;k e lpd dk dgr g & nk lpd d uke (½x2=1)

vEy ,o {kj dh jklk;fud fØ;k e lpd feyku ij tc jklk;fud fØ;k i.k gk tkrh g rk lpd }kjk foy;u dk jx cny tkrk g ftl vfre fcUn dgr g A vr% lpd] mnklhdj.k dh i.krk dk n'kkrk g A

uke & feFkkby vkjt] QhukY¶Fkyhu A ¼3½

mRrj 9& 'k) vkj v'k) o.kØe e vUrj %& ¼dkb nk½ ¼1½+1½=3½

'k) o.kØe	v'k) o.kØe
bl o.kØe e lHkh jx Li"V ,o vyx fn[kkb nr g A	bl o.kØe e ,d l vf/kd jx ,d gh lkFk ,d LFkku e fn[kr g vFkkr jxk dh Over laping gkrh gA
bl o.kØe e bl o.k dk ikIr dju e fiTe d nkuk Qydk ij ,d&,d mRry yl i;kx e ykr g A	ble ,lk ugh fd;k tkrk gA

mRrj 10& xg okfVdk yxku d rhu mnn'; 1$3 = ¼4½

1- xgokfVdk dk e[; mnn'; viu ifjokj d fy, ifrfnu rkth lfCt;k ikIr djuk gA

2- eukjtu ,o 'kkjhfjd 0;k;ke d mnn'; l ;g okfVdk yxkb tkrh gA

3- cPpk dk if'k{k.k d fy, ;g vPNk lk/ku gA

4- ?kj rFkk vkokl d pkjk rjQ d cdkj Hk[kM dk l tho ,o lnj vkd"kd cuku d mnn'; l xg okfVdk yxkb tkrh gA

5- LokLF; Bhd jgrk g] ekufld ruko nj gkrk g ,o in"k.k nj gkrk gA

led{k dkb 3 mnn'; ij 3 vd

mRrj 11& fuEu dk mnkgj.k lfgr le>kb; ¼&

mRijd fo"k ¼& dN inkFk viuh l{e mifLFkfr l mRijd dk fuf"Ø; dj nr g ;k fØ;k'khyrk ?kVk nr g] mRijd fo"k dgykr g A tl & H_2SO_4 dh Li'k fof/k e $SO_2 + O_2$ d xlh; feJ.k e vkIfud vkDlkbM dh FkkMh Hkh mifLFkfr gk rk lyfVue dh mRij.k 'kfDr u"V gk tkrh g vr¼ vkIfud mRijd fo"k dgykrk g A

mRijd mRlkgd ¼& dN inkFk Lo; mRijd ugh gkr fdUr mRijd dh fØ;k'khyrk dk c<ku dh {kerk j[kr g budh l{e ek=k l mRijd dh 'kfDr c< tkrh g bUg mRijd mRlkgd dgr gA NH_3 cuku dh gcj fof/k e ykg p.k d lkFk mifLFkr MO mRijd mRlkgd dk dk; djrk gA

vFkok

mRij.k D;k gA fdUgh nk mRijdk d uke o x.k 2$1$1=¼4½

mRij.k ¼& og inkFk tk viuh mifLFkfr ek= l jklk;fud fØ;k dh xfr dk ?kVk ;k c<k nrk g vkj Lo; fØ;k d vr e Hkkj o jklk;fud lxBu dh nf"V l viofrr jgrk g mRijd dgykrk gA

mRijd d uke & mi;kx

1½ MnO_2 & eXuhV Mkb vkDlkbM dk i;kx i;kx'kkyk e O_2 xl cuku e gkrk gA

2½ vk;ju vkDlkbM Fe_2O_3 ;g gcj fof/k l vekfu;k xl cuku d dke

vkrk gA

¼mijkDr d vfrfjDr lgh uke o mnkgj.k fy[ku ij 1$1 vd fn;
tko½

mRrj 12& vkDlh 'olu ,o vukDlh 'olu e dkb pkj vrj %& ¼4½

	vkDlh 'olu	vukDlh 'olu
1	;g O_2 dh mifLFkr e i.k gkrh gA	;g O_2 dh vuifLFkfr e i.k gkrh gA
2	bl fØ;k e Hkktu dk i.k vkDlhdj.k gkrk gA	vi.k vkDlhdj.k gkrk g
3	bl fØ;k d vr e ty o CO_2 curk gA	bl fØ;k d vr e vYdkgy rFkk CO_2 dk fuek.k gkrk g A
4	bl fØ;k d vr e 38 ATP dk fuek.k gkrk gA	ble 2] ATP dk fuek.k gkrk gA

¼mijkDr ;k vU; led{k ij 1&1 vd fn; tko½

vFkok

'olu o idk'k l'y"k.k e dkb pkj vrj %& 1$1$1$1=¼4½

	'olu	idk'k 'olu
1	bl fØ;k e O_2 xg.k dh tkrh g CO_2 fudkyh tkrh gA	bl fØ;k e CO_2 xg.k dh tkrh g ,o O_2 fudkyh tkrh gA
2	;g fo[kMdkjh fØ;k gA	;g fuek.kdkjh fØ;k gA
3	ble tfVy inkFk] ljy inkFkk e cny tkr g A	ble ljy inkFk tfVy cur g A
4	;g fØ;k lHkh le; gkrh gA	;g fØ;k doy idk'k e i.k dh tkrh gA
5	bl fØ;k e Åtk [kp gkrh gA	bl fØ;k e Åtk lfpr gkrh gA
6	bl fØ;k dk lehdj.k $C_6H_{12}O_6+6O_2$--->$6H_2O+ 6CO_2+$ 673kcl	bl fØ;k dk lehdj.k fHkUu g $6CO_2+12H_2O+$ DykjkfQy $C_6H_{12}O_6+6H_2O+6CO_2$

mRrj 13& dkykbMh foy;u d dkb pkj x.k ¼iR;d e 1 vd½

1- dkykbMh d.k l{en'kh }kjk foy;u e n[k tk ldr g A

2- ;g foy;u fo"kekxh gkrk gA

3- dkykbMh d.k fQYVj iij l ljyrk iod ikj gk tkr g A

4- dkykbMh d.k fujUrj VMh e<h xfr djr jgr g A bl xfr dk ckmuhxfr dgr g A

¼vFkok vU; led{k x.k fy[ku ij 1x 4 = 4 vd fn; tko½

vFkok

dkykjMh foy;u d dkb pkj mi;kx %& 1$1$1$1=¼4½

1- ty l v'kf);k nj dju ij ty 'kk/ku d mi;kx e A

2- /kvk l dkcu d d.k vyx dju e dkj[kku dh fpefu;k e mi;kx

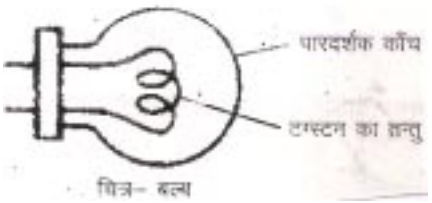
3- ikuh l cM 'kgjk e ukyh d xn ikuh vyx dju e mi;kx gkrk gA

4- jcj m|kx e mi;kx fd;k tkrk gA

5- vk"kf/k d :i e lkn; ilk/ku d :i e] mi;kx fd;k tkrk gA

¼;k vU; led{k mRrj ij vd fn; tko½

mRrj 14& fo|r cYo dk ukekfdr fp= cukdj mldh jpuk dk o.ku dhft , A 2$2=¼4½



चित्र- बल्ब

bldk vkfo"dkj ,Mhlu u fd;k Fkk ;g dkp dk cuk gvk cYc gkrk g ft ld vnj fjDr LFkku ;k fu;kr jgrk gA vfØ; xl Hkjh jgrh g A bl dkp d cYc e VxLVu dk rr yxk jgrk g tk fo|r iokg l 'kh?k gh jDr rlr xe gkdj idk'k nrk g rFkk fo|r iokg cn dju ij 'kh?k gh BMk gk tkrk g A bl fo|r cYc dk i;kx ge ?kjk] vkfQlk rFkk lkotfud LFkku ij idk'k ikIr dju d fy; djr g A

vFkok

fo|r bLrjh dk ukekfdr fp= o jpuk %& fp= 2$jpuk 2 ¾ 2$2=¼4½

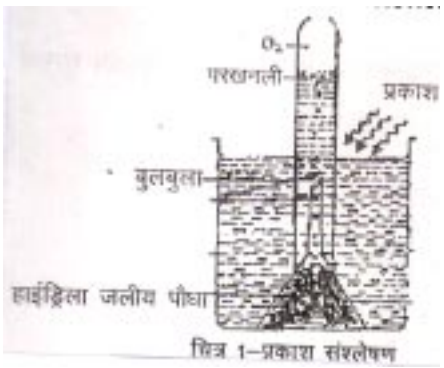
fo|r bLrjh e ukbØke tlh feJ /kkr dk ,yheV vHkd dh irk d chp nck jgrk g bu ijrk dk ,EcLVkl dh lyV d uhp j[k fn;k tkrk g ,EcLVkl fo|r jk/ku dk dk; djrk g] ftle bLrjh d ykg oky Hkkx e fo|r /kkjk ugh cg ikrh A ,yheV e l iokfgr gku ij ; yky xe gkdj rki mRiUu djrk g]

ftle ykg dh bLrjh xe gk tkrh gA

¼fo|r bLrjh o.ku dju ij 2 vd] fp= ij 2 vd fn; tko½

mRrj 15& i;kx }kjk fl) dhft, fd idk'k l'y"k.k dh fØ;k e O_2 xl fudyrh g%&

i;kx & ,d chdj e tyh; ik/kk gkbfMyk ydj bl dkp dh dhi l <d dj j[kr g chdj ty l Hkj nr g A ,d ty l Hkjh ijh ij[k uyh ydj mYVh j[k nr g A l; d idk'k dh mifLFkfr e idk'k l'y"k.k fØ;k }kjk vkDlhtu curk g tk dhi l gkrh gb ij[kuyh e ,df=r gkrh jgrh g ty /khj&/khj mrjrk tkrk g A ij[kuyh e ,df=r xl d lid e tyrh gb rhyh y tku ij og vkj rhork l tyrh g vr% ;g fl) gkrk g fd idk'k l'y"k.k fØ;k e O_2 xl fudyrh gA ¼3$2¾5½



चित्र 1–प्रकाश संश्लेषण

vFkok

ok"ikRl tu fØ;k i;kx }kjk fl) djuk ¼fp= 2 vd] o.ku 3 vd ¾ 5½

ok"ikRl tu dk in'ku %& xey e yx ik/kk dk ydj xey dk ikyhfFku }kjk <ddj ,d dkp dh lyV ij j[kdj dkp d cy tkj }kjk <d nr g ,o r;kj

i;kx dk l; d idk'k e j[k nr g A 7&8 ?kV i'pkr cy tkj d Åijh Hkhrjh lrg ij ikuh dh cn fn[kkb nu yxrh g A ; cn ok"ikRl tu fØ;k d i'pkr fudyh ok"i l fufer gA

चित्र– वाष्पउत्सर्जन का प्रदर्शन

mRrj 16& ckxokuh e mi;Dr fuEu midj.k dkb&2 ½2½+2½=5½

1- xrh & mi;kfxrk %&

1½ iFkjhyh txg d iRFkj gVkdj m|ku cuku d fy; A

2½ txg dk lery cuku d dke vkrk gA

चित्र– गैंती

2- QkoMk & mi;kfxrk %&

1½ QkoMk xgjh xMkb;k d fy, dke vkrk gA

2½ QkoMk ck/k ck/ku] ukyh cuku] feVVh p<ku] [kkn feyku o Hkfe dk lery dju d dke vkrk gA

चित्र–फावड़ा

vFkok

ckxokuh e flpkb ,o ÑUru d dke e vku oky 2 ;=k d fp= o mudh mi;kfxrk %&

gtkjk] gfl;k

1- gtkjk %& 1½ bl midj.k }kjk D;kfj;k e ikuh nu dk lefpr ic/k fd;k tkrk gA

2½ m|ku d uUg ik/kk dk lhpu d fy; Q0okj d :i e bldk mi;kx fd;k tkrk gA

fp=–gtkjk

2- gfl;k %& 1½ ;g v/kpnkdkj vkdfr dk gRFk ;Dr ;= g ;g 'kkd ekuh dk Åij&Åij l dkVu d dke vkrk gA

fp=– gfl;k

mRrj 17& ØlhQjh dy dk fuEu fcUnvk ij o.ku dhft ; A 2$1$2=¼5½

1- i"i o.ku] 2- i"i l=] 3- vkfFkd egRo ¼dkb nk½

i"i o.ku dju ij 2 vd

vkfFkd egRo & elky] Hkkstu] ry] vk"kf/k e l fdlh d nk egRo fy[ku ij 2 vd fn;k tko A

vFkok

lkyulh dy dk fuEu fcUnvk ij o.ku dhft ; A 2$1$2=¼5½

1- i"i o.ku] 2- i"i l=] 3- vkfFkd egRo ¼dkb nk½

i"i o.ku dju ij 2 vd

vkfFkd egRo & Hkkstu] elky] vk"kf/k] rEckd] lnjrk d fy;] [kjirokj e l fdlh nk egRo fy[ku ij 2 vd fn; tko A

mRrj 18& l{en'kh dk fuEu fcUnvk ij o.ku dhft, A 3$3=¼6½

dk; fof/k] fl)kr

l{en'kh dk;fof/k fy[ku ij 3 vd] fl)kr fy[ku ij 3 vd fn; tko A

vFkok

iPNk;k ,o miNk;k d vk/kkj ij l;xg.k ,o pUnxg.k dk o.ku djukA

l;xg.k o.ku dju ij 3 vd A

pUnxg.k o.ku dju ij 3 vd A 3$3=¼6½

mRrj 19& ykHknk;d tho.kvk dk vkfFkd egRo %&

fljdk cuku e] lkbfVd vEy e] ,Ydkgy cuku e] iuhj ngh eD[ku cuku e] pk; rEckd 0;olk; e] vpkj] uhy] tV m|kx e] pe jkx] Hkk tu cuku e] vk"kf/k m|kx e thok.k ce] df"k e A

mijkDr e l fdlh 6 fcUnvk ij o.ku dju ij iR;d e 1&1 vd fn;k tkoA

vFkok

fdUgh rhu ekuo jkx mRiUu dju oky thok.k ,o ikni jkx mRiUu dju oky thok.k d uke ,o mue mRiUu gku oky jkxk d uke %&

ekuo jkx		**thok.k dk uke**
{k; jkx ;k rifnd	&	ekbdkoDVhfj;e V;cjdykfle
gtk	&	ckbfo;kdkyjh
VkbQkbM	&	lkYekulk VkbQklk

ikni jkx		**thok.k dk uke**
iRrkxkHkh dk dkyk jrvk	&	tUFkekukl dEifLVl
uk'kikrh ,o lo dk tyu vxekuh	&	bohfu;k ,feykokjk
uhc dk ddj jkx	&	t lkbVh

iR;d ij 1 vd] fu/kkfjr g jkx o thok.k dk uke fy[ku ij 1&1 vd fn; tko A

&&&00&&&

Set - B

gk;j ld.Mjh Ldy lVhfQdV ijh{kk

Higher Secondary School Certificate Examination

lEiy&i'u i=

SAMPLE PAPER

fo"k; ¼& (Subject) - foKku d rRo **le; 3 ?k.Vk (Time- 3 Hrs)**

d{kk ¼& (Class) - ckjgoh ¼12oh½ **i.kkd 75 (M.M.)**

(Instruction) & ¼fun'k½

1- lHkh i'u gy djuk vfuok;g A
Attempt all the Questions

2- i'u Øekd 01 e 10 vd fu/kkfjr g A nk mi[k.M g A [k.M ^^v** e 05 cgfodYih; i'u rFkk [k.M ^^c** e 05 fjDr LFkkuk dh ifr vFkok mfpr lc/k tkfM, A iR;d i'u d fy, 1 vd vkcfVr g A
Q. No. 01 Carries 10 Marks. There are two sub-sections, Section A is Multiple choice carries 05 marks and section B is fill in the blanks or match the column carries 05 marks.

3- i'u Øekd 02 l i'u Øekd 06 rd vfr y?kmRrjh; i'u g A iR;d i'u ij 02 vd vkcfVr g A mRrj dh vf/kdre 'kCn lhek 30 'kCn A
Q. No. 2 to 06 are very short answer type question & it carries 02 marks each. Word limit is maximum 30.

4- i'u Øekd 07 l i'u Øekd 10 rd y?kmRrjh; i'u g A iR;d i'u ij 03 vd vkcfVr g A mRrj dh vf/kdre 'kCn lhek 50 'kCn A
Q. No. 07 to 10 are short answer type question & it carries 03 marks each. Word limit is maximum 50.

5- i'u Øekd 11 l i'u Øekd 14 rd y?kmRrjh; i'u g A iR;d i'u e vkrfjd fodYi g vkj iR;d i'u ij 04 vd vkcfVr g A mRrj dh vf/kdre 'kCn lhek 75 'kCn A
Q. No. 11 to 14 are short answer type question & it carries 04 marks each. Each question has internal choice. Word limit is maximum 75.

6- i'u Øekd 15 l i'u Øekd 17 rd nh?kmRrjh; i'u g A iR;d i'u e vkrfjd fodYi g vkj iR;d i'u ij 05 vd vkcfVr g A mRrj dh vf/kdre 'kCn lhek 75 'kCn A

Q. No. 15 to 17 are long answer type question & it carries 05 marks each. Each question has internal choice. Word limit is maximum 75.

7- i'u Øekd 18 l i'u Øekd 19 rd nh?kmRrjh; i'u g A iR;d i'u e vkrfjd fodYi g vkj iR;d i'u ij 06 vd vkcfVr g A mRrj dh vf/kdre 'kCn lhek 150 'kCn A

Q. No. 18 to 19 are long answer type question & it carries 06 marks each. Each question has internal choice. Word limit is maximum 150.

[k.M ^v* @ Section A

i'u 1 ¼v½ & lgh fodYi pudj fyf[k; \ ¼1x5= 5½ 5 vd

Write the correct choice :-

(i) ,l inkFk ftue dkcu gkrk g] dgykr g \

¼v½ vdkcfud ¼c½ dkcfud

¼l½ ;kfxd ¼n½ feJ.k

A substance which contains carbon is called ;

(a) Inorganic (b) Organic

(c) Compound (d) Mixture

(ii) bl inkFk dk mi;kx ifjj{kd d :i e gkrk gA

¼v½ lkfM;e dkckuV ¼c½ lkfM;e yo.k

¼l½ lkfM;e ckbdkckuV ¼n½ lkfM;e cUtk,V

This substance is used as preservative ;

(a) Sodium carbonate (b) Sodium Salt

(c) Sodium bicarbonate (d) Sodium Benzoate

(iii) uhyk FkkFkk dk mi;kx gkrk g A

¼v½ xgu cuku e ¼c½ nokb;k e

¼l½ Nikb e ¼n½ jxu e

Blue vitrol is used in ;

(a) Ornament making (b) in medicine

(c) in printing (d) in dying

(iv) l;kt d ik/k e bru vMi gkr g]

¼v½ ,d ¼c½ nk

¼l½ rhu ¼n½ pkj

Such number of carpels found in onion ;

(a) One (b) Two

(c) Three (d) Four

(v) dN n'kk dh lukvk d ikl ce Hkh gkr g A

¼v½ ijek.k ce ¼c½ v.k ce

¼l½ thok.k ce ¼n½ fo"kk.k ce

Armis of some countries too have bombs -

(a) Atomic (b) Molecular

(c) Bacterial (d) Viral

[k.M ^c* @ Section A

¼c½ fjDr LFkkuk dh ifr djk & ¼1 x 5 = 5½ 5 vd

Fill in the blank :-

(i) idk'k d iHkko l fdlh /kkr l ---------- mRlftr gku yxr g A

..... are emitted out from the light effect from any metal.

(ii) pEcd ---------- inkFkk dk vkdf"kr djrk gA

Magnet attracts ..... substances.

(iii) tc vfHkdkjd vkj mRijd ,d gh voLFkk e gk rk ---------- mRijd dgykrk gA

When reactant and catalyst are in same state then it is called ..... catalyst.

(iv) ,lhfVd vEy dk 0;kikfjd uke ---------- gA

Proffessional name of acetic acid is .....

(v) thok.k dh fØ;k }kjk ---------- ikIr fd;k tkrk gA

..... is obtained by the bacterial process.

i'u 2& l{en'kh fdl dgr g \ ;g fdru idkj dk gkrk gA \ 1$1 = 2 vd

What is microscope ? What are its types ?

i'u 3& ifjufydk fdl idkj cukb tkrh gA ¼2½

How coil is prepared ?

i'u 4& ikdfrd pEcd fdl dgr g A ¼2½

What is called Natural magnet ?

i'u 5& vuekiu fdl dgr g \ ¼2½

What is called titration ?

i'u 6& mnklhu foy;u fdl dgr g \ ¼2½

What is called neutral solution ?

i'u 7& ?kjk e ¶;t rkj D;k yxk; tkr g A ¼3½

Why fuse wire is used in houses ?

i'u 8& ekyj foy;u rFkk ekud foy;u fdl dgr g \ ¼3½

What is called molar and standard solution ?

i'u 9& nhIr rFkk vnhIr oLrvk l D;k le>r gk \ mnkgj.k lfgr fyf[k;A ¼3½

What do understand by "LUMINOUS" and "NON-LUMINOUS" object ?

i'u 10& gfjr Økfr D;k g \ ekuo thou e gfjr Økfr d egRo dk fyf[k; A

2$2=¼4½

What is green revolution ? What is the importance of green revolution in the human life ?

i'u 11& fuEu dk mnkgj.k lfgr le>kb; & ½2$2¾4½

mRijd fo"k] mRijd mRlkgd

Explain the following with example-

Catalytic Poison, Catalytic Promotor

^^vFkok OR

mRij.k D;k gA fdUgh nk mRijdk d uke o mi;kx fyf[k; A 2$1$1=¼4½

What is catalysis ? Write the name and use of any two catalysists.

i'u 12& vkDlh ,o vukDlh 'olu e dkb pkj vrj fyf[k; A ¼4½

Write any four differences between anerobic and anerobic respiration.

^^vFkok OR

'olu o idk'k l'y"k.k e dkb pkj vrj fyf[k; A 1$1$1$1=¼4½

Write any four differences between respiration and photosynthesis.

i'u 13& dkykbMh foy;u d dkb pkj x.k fyf[k; 1$1$1$1=¼4½

Write any four properties of colloidal solution

^^vFkok OR

dkykbMh foy;u d dkb pkj mi;kx fyf[k; A 1$1$1$1=¼4½

Write any four uses of colloidal solution.

i'u 14& fo|r cYo dk ukekfdr fp= cukdj mldh jpuk dk o.ku dhft , A 2$2=¼4½

Describe the construction of an electric bulb with the labelled diagram.

^^vFkok OR^^

fo|r bLrjh dk ukekfdr fp= cukdj mldh jpuk dk o.ku dhft,A 2$2=¼4½

Describe the construction of an electric iron with labelled diagram.

i'u 15& i;kx }kjk fl) dhft, fd idk'k l'y"k.k dh fØ;k e O_2 xl fudyrh gA

Prove experimentally that oxygen gas is evolved during photosynthesis. 2$3=¼5½

^^vFkok OR^^

ok"ikRl tu fØ;k d fy; i;kx fyf[k; A ¼5½

Write an experiment for transpiration.

i'u 16& ckxokuh e mi;Dr fuEu midj.kk dk fp= cukdj mudh mi;kfxrk fyf[k;A xrh] QkoMk (2½+2½=5)

Write the utility of the following equipments with diagram used in the gardening.

GAINTEE, Phawada (Spade)

^^vFkok OR^^

ckxokuh e flpkbZ ,o ÑUru d dke e vku oky fuEu ;=k dk fp= cukdj mudh mi;kfxrk fyf[k; A

gtkjk] gfl;k (2½+2½=5)

Write the utility of the following equipments with diagram used in the irrigation and pruning-

HAZARA, SICKLE (Hansiya)

i'u 17& ØlhQjh dy dk fuEu fcUnvk ij o.ku dhft; A 2$1$2=¼5½

1- i"i o.ku] 2- i"i l=] 3- vkfFkd egRo ¼dkbZ nk½

Describe the family 'CRUCIFERAE' on the following points-

1. Flower description, 2. Floral formulla,
3. Economic importance (any two)

^^vFkok OR^^

lkyulh dy dk fuEu fcUnvk ij o.ku dhft; A 2$1$2=¼5½

1- i"i o.ku] 2- i"i l=] 3- vkfFkd egRo ¼dkbZ nk½

Describe the family 'SOLONACEAE' on the following points-

1. Flower description, 2. Floral formulla,
3. Economic importance (any two)

i'u 18& l{en'kh dk fuEu fcUnvk ij o.ku dhft, A 3$3=¼6½

dk; fof/k] fl)kr

Describe about microscope on the following points -

Working method, Principle

^vFkok OR**

iPNk;k ,o miNk;k d vk/kkj ij l;xg.k ,o pUnxg.k dk o.ku dhft; A

Discribe about solar and lunar eclipse on the basis of umbra and penumbra.

3$3=¼6½

i'u 19& fdUgh 6 ykHknk;d thok.kvk dk vkfFkd egRo fyf[k; A (1x6=6)

Write about economic importance of any six useful bacteria.

^vFkok OR**

fdUgh rhu ekuo jksx mRiUu dju oky thok.k ,o rhu ikni jksx mRiUu dju oky thok.k dk uke ,o mUl mRiUu gku oky jksxk d uke fyf[k, A (1x6=6)

Write the name of any three human and three plant diseases causing bacteria along with the name of disease caused by them.

&&&00&&&

lEiy mRrj

mRrj 1 ¼v½& lgh fodYi %& ¼1 x 5 = 5½ 5 vd

(i) ¼c½ dkcfud

(ii) ¼n½ lkfM;e cUtk,V

(iii) ¼v½ xgu cuku e

(iv) ¼l½ rhu

(v) ¼l½ thok.k ce

¼c½& fjDr LFkku %& ¼1 x 5 = 5½ 5 vd

(i) byDVku

(ii) pEcdh;

(iii) lHkkx

(iv) fljdk

(v) uhyk

mRrj 2& og ;= ftle l{e oLr, cMh fn[kkbnrh g l{en'kh dgykrh gA ; nk idkj d gkr g A 1- ljy 2- l;Dr 1$1 = 2 vd

mRrj 3& dMfyr NMk d Åij fo|r rkj yiVdj ifjukfydk cukb tkrh gA ½2½

mRrj 4& og pEcd tk ikdfrd voLFkk e ik;k tkrk g ml ikdfrd pEcd dgr g A

mRrj 5& vEy ,o {kkj dh lkUnrk Kkr dju dh fof/k dk vuekiu dgr g A ½2½

mRrj 6& og fofy;u ftle vEy vFkok {kkj d x.k ugh feyr vFkkr ml foy;u dk **pH** eku 7 gkrk g mnklhu foy;u dgr g A ½2½

mRrj 7& ¶;t rkj dk xyukd de gkrk g vr% bUg ?kjk e fo|r /kkjk dh vf/kdrk l fo|r midj.kk dk cpku d fy; yxk;k tkrk gA

¼;k led{k mRrj fy[ku ij 3 vd½

mRrj 8& og fofy;u ftldh lkUnrk Kkr gk ,o vuekiu e ftldk mi;kx djr g ml ekud fofy;u dgr g A fdlh inkFk dk ,d xke v.kHkkx dk ,d yhVj ty e ?kkyu ij tk fofy;u ikIr gkrk g ml ekyj foy;u dgr g A ¼3½

mRrj 9& o oLr, tk Lo; e idk'keku gkrh g mUg nhIr oLr, dgr g A

mnkgj.k %& l;] rkjk] txu dhV

¼;k vU; led{k mRrj feyu ij M< vd½

o oLr, ftue Lo; dk idk'k ugh gkrk ijUr idk'k iMu ij o idk'keku gkrh g vnhlr oLr, dgykrh gA mnkgj.k & pUnek

¼;k vU; led{k mRrj feyu ij M< vd½

mRrj 10& gfjr Økfr & ifjHkk"kkh vf/kd l vf/kd mi;kxh Qlyk dh] Qyk dh] lfCt;k dh] [kkrh dj [kk|kUu] vukt] lfCt;k ,o Qy dk mRiknu dj n'k dk [kk| leL;k l fujkdj.k dju dh igy dk gfjr Økfr dgr g A

¼;k vU; led{k mRrj feyu ij 1 vd½

mRrj 11& fuEu dk mnkgj.k lfgr le>kb; %&

mRijd fo"k %& dN inkFk viuh l{e mifLFkfr l mRijd dk fuf"Ø; dj nr g ;k fØ;k'khyrk ?kVk nr g] mRijd fo"k dgykr g A t l & H_2SO_4 dh Li'k fof/k e $SO_2 + O_2$ d xlh; feJ.k e vklfud vkDlkbM dh FkkMh Hkh mifLFkfr gk rk lyfVue dh mRij.k 'kfDr u"V gk tkrh g vr% vklfud mRijd fo"k dgykrk g A

mRijd mRlkgd %& dN inkFk Lo; mRijd ugh gkr fdUr mRijd dh fØ;k'khyrk dk c<ku dh {kerk j[kr g budh l{e ek=k l mRijd dh 'kfDr c< tkrh g bUg mRijd mRlkgd dgr gA NH_3 cuku dh gcj fof/k e ykg p.k d lkFk mifLFkr MO mRijd mRlkgd dk dk; djrk gA

vFkok

mRij.k D;k gA fdUgh nk mRijdk d uke o x.k 2$1$1=¼4½

mRij.k %& og inkFk tk viuh mifLFkfr ek= l jklk;fud fØ;k dh xfr dk ?kVk ;k c<k nrk g vkj Lo; fØ;k d vr e Hkkj o jklk;fud lxBu dh nf"V l viofrr jgrk g mRijd dgykrk gA

mRijd d uke & mi;kx

1½ MnO_2 & eXuht Mkb vkDlkbM dk i;kx i;kx'kkyk e O_2 xl cuku e gkrk gA

2½ vk;ju vkDlkbM Fe_2O_3 ;g gcj fof/k l vekfu;k xl cuku d dke vkrk gA

¼mijkDr d vfrfjDr lgh uke o mnkgj.k fy[ku ij 1$1 vd fn; tko½

mRrj 12& vkDlh 'olu ,o vukDlh 'olu e dkb pkj vrj %& ¼4½

	vkDlh 'olu	vukDlh 'olu
1	;g O_2 dh mifLFkr e i.k gkrh gA	;g O_2 dh vuifLFkfr e i.k gkrh gA
2	bl fØ;k e Hkkrtu dk i.k vkDlhdj.k gkrk gA	vi.k vkDlhdj.k gkrk g
3	bl fØ;k d vr e ty o CO_2 curk gA	bl fØ;k d vr e vYdkgy rFkk CO_2 dk fuek.k gkrk g A
4	bl fØ;k d vr e 38 ATP dk fuek.k gkrk gA	ble 2] ATP dk fuek.k gkrk gA

¼mijkDr ;k vU; led{k ij 1&1 vd fn; tko½

vFkok

'olu o idk'k l'y"k.k e dkb pkj vrj %& 1$1$1$1=¼4½

	'olu	idk'k 'olu
1	bl fØ;k e O_2 xg.k dh tkrh g CO_2 fudkyh tkrh gA	bl fØ;k e CO_2 xg.k dh tkrh g ,o O_2 fudkyh tkrh gA
2	;g fo[kMdkjh fØ;k gA	;g fuek.kdkjh fØ;k gA
3	ble tfVy inkFk] ljy inkFkk e cny tkr g A	ble ljy inkFk tfVy cur g A
4	;g fØ;k lHkh le; gkrh gA	;g fØ;k doy idk'k e i.k dh tkrh gA
5	bl fØ;k e Åtk [kp gkrh gA	bl fØ;k e Åtk lfpr gkrh gA
6	bl fØ;k dk lehdj.k $C_6H_{12}O_6+6O_2$--->$6H_2O+ 6CO_2+$ 673kcl	bl fØ;k dk lehdj.k fHkUu g $6CO_2+12H_2O+$ Dykjkfqy $C_6H_{12}O_6+6H_2O+6CO_2$

mRrj 13& dkykbMh foy;u d dkb pkj x.k ¼iR;d e 1 vd½

1- dkykbMh d.k l{en'kh }kjk foy;u e n[k tk ldr g A

2- ;g foy;u fo"kekxh gkrk gA

3- dkykbMh d.k fQYVj iij l ljyrk iod ikj gk tkr g A

4- dkykbMh d.k fujUrj VMh e<h xfr djr jgr g A bl xfr dk ckmuhxfr dgr g A

¼vFkok vU; led{k x.k fy[ku ij 1x 4 = 4 vd fn; tko½

vFkok

dkykjMh foy;u d dkb pkj mi;kx %& 1$1$1$1=¼4½

1- ty l v'kf);k nj dju ij ty 'kk/ku d mi;kx e A

2- /kvk l dkcu d d.k vyx dju e dkj[kku dh fpefu;k e mi;kx

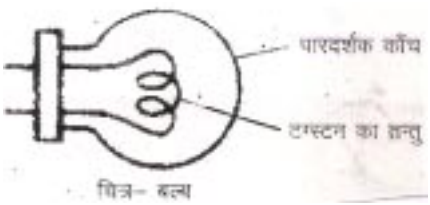
3- ikuh l cM 'kgjk e ukyh d xn ikuh vyx dju e mi;kx gkrk gA

4- jcj m|kx e mi;kx fd;k tkrk gA

5- vk"kf/k d :i e lkn; ilk/ku d :i e] mi;kx fd;k tkrk gA

¼;k vU; led{k mRrj ij vd fn; tko½

mRrj 14& fo|r cYo dk ukekfdr fp= cukdj mldh jpuk dk o.ku dhft, A 2$2=¼4½



चित्र- बल्ब

bldk vkfo"dkj ,Mhlu u fd;k Fkk ;g dkp dk cuk gvk cYc gkrk g ftld vnj fjDr LFkku ;k fu;kr jgrk gA vfØ; xl Hkjh jgrh g A bl dkp d cYc e VxLVu dk rr yxk jgrk g tk fo|r iokg l 'kh?k gh jDr rlr xe gkdj idk'k nrk g rFkk fo|r iokg cn dju ij 'kh?k gh BMk gk tkrk g A bl fo|r cYc dk i;kx ge ?kjk] vkfQlk rFkk lkotfud LFkku ij idk'k ikIr dju d fy; djr g A

vFkok

fo|r bLrjh dk ukekfdr fp= o jpuk %& fp= 2$jpuk 2 ¾ 2$2=¼4½

fo|r bLrjh e ukbØke tlh feJ /kkr dk ,yheV vHkd dh irk d chp nck jgrk g bu ijrk dk ,EcLVkl dh lyV d uhp j[k fn;k tkrk g ,EcLVkl fo|r jk/ku dk dk; djrk g] ftle bLrjh d ykg oky Hkkx e fo|r /kkjk

ugh cg ikrh A ,yheV e l iokfgr gku ij ; yky xe gkdj rki mRiUu djrk g]

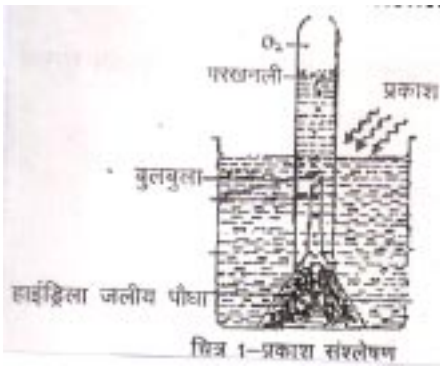
चित्र– विद्युत प्रेस

ft le ykg dh bLrjh xe gk tkrh gA

¼fo|r bLrjh o.ku dju ij 2 vd] fp= ij 2 vd fn; tko½

mRrj 15& i;kx }kjk fl) dhft, fd idk'k l'y"k.k dh fØ;k e O_2 xl fudyrh g%&

i;kx & ,d chdj e tyh; ik/kk gkbfMyk ydj bl dkp dh dhi l <d dj j[kr g chdj ty l Hkj nr g A ,d ty l Hkjh ijh ij[k uyh ydj mYVh j[k nr g A l; d idk'k dh mifLFkfr e idk'k l'y"k.k fØ;k }kjk vkDlhtu curk g tk dhi l gkrh gb ij[kuyh e ,df=r gkrh jgrh g ty /khj&/khj mrjrk tkrk g A ij[kuyh e ,df=r xl d lid e tyrh gb rhyh y tku ij og vkj rhork l tyrh g vr% ;g fl) gkrk g fd idk'k l'y"k.k fØ;k e O_2 xl fudyrh gA ¼3$2¾5½



चित्र 1–प्रकाश संश्लेषण

vFkok

ok"ikRl tu fØ;k i;kx }kjk fl) djuk ¼fp= 2 vd] o.ku 3 vd ¾ 5½

ok"ikRl tu dk in'ku %& xey e yx ik/kk dk ydj xey dk ikyhfFku }kjk <ddj ,d dkp dh lyV ij j[kdj dkp d cy tkj }kjk <d nr g ,o r;kj i;kx dk l; d idk'k e j[k nr g A 7&8 ?kV i'pkr cy tkj d Åijh Hkhrjh lrg ij ikuh dh cn fn[kkb nu yxrh g A ; cn ok"ikRl tu fØ;k d i'pkr fudyh ok"i l fufer gA

चित्र– वाष्पउत्सर्जन का प्रदर्शन

mRrj 16& ckxokuh e mi;Dr fuEu midj.k dkb&2 ¼2½+2½=5½

1- xrh & mi;kfxrk %&

1½ iFkjhyh txg d iRFkj gVkdj m|ku cuku d fy; A

2½ txg dk lery cuku d dke vkrk gA

चित्र– गैंती

2- QkoMk & mi;kfxrk %&

1½ QkoMk xgjh xMkb;k d fy, dke vkrk gA

2½ QkoMk ck/k ck/ku] ukyh cuku] feVVh p<ku] [kkn feyku o Hkfe dk lery dju d dke vkrk gA

चित्र–फावड़ा

vFkok

ckxokuh e flpkb ,o ÑUru d dke e vku oky 2 ;=k d fp= o mudh mi;kfxrk %&

gtkjk] gfl;k

1- gtkjk %& 1½ bl midj.k }kjk D;kfj;k e ikuh nu dk lefpr ic/k fd;k tkrk gA

2½ m|ku d uUg ik/kk dk lhpu d fy; Q0okj d : i e bldk mi;kx fd;k tkrk gA

fp=–hjara

2- gfl;k %& 1½ ;g v/kpnkdkj vkdfr dk gRFk ;Dr ;= g ;g 'kkd ekuh dk Åij&Åij l dkVu d dke vkrk gA

fp=– hfl;k

mRrj 17& ØlhQjh dy dk fuEu fcUnvk ij o.ku dhft ; A 2$1$2=¼5½

1- i"i o.ku] 2- i"i l=] 3- vkfFkd egRo ¼dkb nk½

i"i o.ku dju ij 2 vd

vkfFkd egRo & elky] Hkkstu] ry] vk"kf/k e l fdlh d nk egRo fy[ku ij 2 vd fn;k tko A

vFkok

lkyulh dy dk fuEu fcUnvk ij o.ku dhft ; A 2$1$2=¼5½

1- i"i o.ku] 2- i"i l=] 3- vkfFkd egRo ¼dkb nk½

i"i o.ku dju ij 2 vd

vkfFkd egRo & Hkkstu] elky] vk"kf/k] rEckd] lnjrk d fy;] [kjirokj e l fdlh nk egRo fy[ku ij 2 vd fn; tko A

mRrj 18& l{en'kh dk fuEu fcUnvk ij o.ku dhft, A 3$3=¼6½

dk; fof/k] fl)kr

l{en'kh dk;fof/k fy[ku ij 3 vd] fl)kr fy[ku ij 3 vd fn; tko A

vFkok

iPNk;k ,o miNk;k d vk/kkj ij l;xg.k ,o pUnxg.k dk o.ku djukA

l;xg.k o.ku dju ij 3 vd A

pUnxg.k o.ku dju ij 3 vd A 3$3=¼6½

mRrj 19& ykHknk;d tho.kvk dk vkfFkd egRo %&

fljdk cuku e] lkbfVd vEy e] ,Ydkgy cuku e] iuhj ngh eD[ku cuku e] pk; rEckd 0;olk; e] vpkj] uhy] tV m|kx e] pe jkx] Hkktu cuku e] vk"kf/k m|kx e thok.k ce] df"k e A

mijkDr e l fdlh 6 fcUnvk ij o.ku dju ij iR;d e 1&1 vd fn;k tkoA

vFkok

fdUgh rhu ekuo jkx mRiUu dju oky thok.k ,o ikni jkx mRiUu dju oky thok.k d uke ,o mue mRiUu gku oky jkxk d uke %&

ekuo jkx		**thok.k dk uke**
{k; jkx ;k rifnd	&	ekbdkoDVhfj;e V;cjdykfle
gtk	&	ckbfo;kdkyjh
VkbQkbM	&	lkYekulk VkbQklk

ikni jkx		**thok.k dk uke**
iRrkxkHkh dk dkyk jrvk	&	tUFkekukl dEifLVl
uk'kikrh ,o lo dk tyu vxekuh	&	bohfu;k ,feykokjk
uhc dk ddj jkx	&	t lkbVh

iR;d ij 1 vd] fu/kkfjr g jkx o thok.k dk uke fy[ku ij 1&1 vd fn; tko A

&&&00&&&

Set - C

gk;j ld.Mjh Ldy lVhfQdV ijh{kk

Higher Secondary School Certificate Examination

lEiy&i'u i=

SAMPLE PAPER

fo"k; ¼& (Subject) - foKku d rRo **le; 3 ?k.Vk (Time- 3 Hrs)**

d{kk ¼& (Class) - ckjgoh ¼12oh½ **i.kkd 100 (M.M.)**

(Instruction) & ¼fun'k½

1- lHkh i'u gy djuk vfuok;g A
Attempt all the Questions

2- i'u Øekd 01 e 10 vd fu/kkfjr g A nk mi[k.M g A [k.M ^^v** e 05 cgfodYih; i'u rFkk [k.M ^^c** e 05 fjDr LFkkuk dh ifr vFkok mfpr lc/k tkfM, A iR;d i'u d fy, 1 vd vkcfVr g A
Q. No. 01 Carries 10 Marks. There are two sub-sections, Section A is Multiple choice carries 05 marks and section B is fill in the blanks or match the column carries 05 marks.

3- i'u Øekd 02 l i'u Øekd 06 rd vfr y?kmRrjh; i'u g A iR;d i'u ij 02 vd vkcfVr g A mRrj dh vf/kdre 'kCn lhek 30 'kCn A
Q. No. 2 to 06 are very short answer type question & it carries 02 marks each. Word limit is maximum 30.

4- i'u Øekd 07 l i'u Øekd 10 rd y?kmRrjh; i'u g A iR;d i'u ij 03 vd vkcfVr g A mRrj dh vf/kdre 'kCn lhek 50 'kCn A
Q. No. 07 to 10 are short answer type question & it carries 03 marks each. Word limit is maximum 50.

5- i'u Øekd 11 l i'u Øekd 14 rd y?kmRrjh; i'u g A iR;d i'u e vkrfjd fodYi g vkj iR;d i'u ij 04 vd vkcfVr g A mRrj dh vf/kdre 'kCn lhek 75 'kCn A
Q. No. 11 to 14 are short answer type question & it carries 04 marks each. Each question has internal choice. Word limit is maximum 75.

6- i'u Øekd 15 l i'u Øekd 17 rd nh?kmRrjh; i'u gA iR;d i'u e vkrfjd fodYi gvkj iR;d i'u ij 05 vd vkcfVr gA mRrj dh vf/kdre 'kCn lhek 75 'kCn A

Q. No. 15 to 17 are long answer type question & it carries 05 marks each. Each question has internal choice. Word limit is maximum 75.

7- i'u Øekd 18 l i'u Øekd 19 rd nh?kmRrjh; i'u gA iR;d i'u e vkrfjd fodYi gvkj iR;d i'u ij 06 vd vkcfVr gA mRrj dh vf/kdre 'kCn lhek 150 'kCn A

Q. No. 18 to 19 are long answer type question & it carries 06 marks each. Each question has internal choice. Word limit is maximum 150.

[k.M ^v* @ Section A

i'u 1 ¼v½ & lgh fodYi pudj fyf[k; \ ¼1 x 5 = 5½ 5 vd

Write the correct choice:-

(i) ,l inkFk ftue dkcu ugh gkrk g] dgykr g \

¼v½ vdkcfud ¼c½ dkcfud

¼l½ ;kfxd ¼n½ feJ.k

A Substance which does not contain carbon is called ;

(a) Inorganic (b) Organic

(c) Compound (d) Mixture

(ii) phuh d cru tkMu e bldk mi;kx gkrk g \

¼v½ lkjy lheUV ¼c½ lheUV

¼l½ lYQV ¼n½ lYQkbM

It is used to join china clay pots (porceline) ;

(a) Sorrel cament (b) Cement

(c) Sulphate (d) Sulphide

(iii) uhyk FkkFkk dk mi;kx ble gkrk g A

¼v½ nokb;k e ¼c½ jDr cgko dk jkdu e

¼l½ vkx c>ku e ¼n½ ifjj{kd d :i e

Blue victrol is used in ;

(a) Medicine (b) to stop blood

(c) in fire extinguishing (d) as a preservative

(iv) i"i dk eknk tuu vx gkrk gA

¼v½ idlj ¼c½ tk;kx

¼l½ nyit ¼n½ ckg; nyit

Male reproductive organ of flower is ;

(a) Stamen (b) Ovary

(c) Corolla (d) Calyx

(v) n/k l ngh cuu dh fØ;k bud }kjk gkrh g \

¼v½ thok.k ¼c½ chtk.k

¼l½ dhVk.k ¼n½ jkxk.k

Preparetion of curd from milk is done by ;

(a) Bacteria (b) Spores

(c) Germs (d) Pathogen

[k.M ^c* @ Section B

¼c½ **fjDr LFkkuk dh ifr djk &** ¼1 x 5 = 5½ 5 vd

Fill in the blanks :-

(i) idk'k d ekx dk ---------- dgr g A

The path of light is called .....

(ii) pEcd d e/; dk Hkkx ---------- gkrk gA

The middle part of the magnet is .....

(iii) tc dkb inkFk vfHkfØ;k dh xfr dk c<k nrk g rk ml ---------- mRijd dgr g A

When any substance increases the speed of reaction then it is called ..... catalyst.

(iv) diM /kku d lkM dk jklk;fud uke ---------- g A

Chemical name of washing soda is .....

(v) thok.k n/k dh 'kdjk l ---------- vEy mRiUu djr g A

Bacteria produces..... acid from the carbohydrate of the milk.

i'u 2& bUn/ku"k dc fn[kykb iMrk g \ bld cuu dk D;k dkj.k gA1$1 = 2 vd

When rainbow is seen ? What are the reasons for its formation ?

i'u 3& fo|r pEcd fdru idkj d gkr g \ ¼2½

What are the types of an electromagnet ?

i'u 4& vkLVM dk fu;e fyf[k; A ¼2½

Write the ORESTED rule.

i'u 5& iekf.kd foy;u fdl dgr g \ ¼2½

What is called standard solution ?

i'u 6& cQj foy;u fdl dgr g \ ¼2½

What is buffer solution ?

i'u 7& cYok e fuf"Ø; xl D;k Hkjh tkrh g \ ¼3½

Why inert gases are filled in the bulbs ?

i'u 8& mnklhuhdj.k fØ;k fdl dgr g A ifjHkk"kk mnkgj.k lfgr fyf[k,A ¼3½

What is neutrilization. Define with example.

i'u 9& iPNk;k vkj miPNk;k e D;k vrj g \ Li"V dhft, A

Explain what is the difference between umbra and penumbra ?

i'u 10& eu"; d nfud thou e fdpu xkMu d fdUgh rhu mi;kx dk fyf[k,A ¼3½

Write any three uses of kitchen garden in the daily life of human beings.

i'u 11& fuEu dk mnkgj.k lfgr le>kb; & ¼2$2¾4½

mRijd fo"k] mRijd mRlkgd

Explain the following with example-

Catalytic Poison, Catalytic Promotor

^^vFkok OR^^

mRij.k D;k gA fdUgh nk mRijdk d uke o mi;kx fyf[k; A 2$1$1=¼4½

What is catalysis ? Write the name and use of any two catalysists.

i'u 12& vkDlh ,o vukDlh 'olu e dkb pkj vrj fyf[k; A ¼4½

Write any four differences between anerobic and anerobic respiration.

^^vFkok OR^^

'olu o idk'k l'y"k.k e dkb pkj vrj fyf[k; A 1$1$1$1=¼4½

Write any four differences between respiration and photosynthesis.

i'u 13& dkykbMh foy;u d dkb pkj x.k fyf[k; 1$1$1$1=¼4½

Write any four properties of colloidal solution

^^vFkok OR^^

dkykbMh foy;u d dkb pkj mi;kx fyf[k; A 1$1$1$1=¼4½

Write any four uses of colloidal solution.

i'u 14& fo|r cYo dk ukekfdr fp= cukdj mldh jpuk dk o.ku dhft, A 2$2=¼4½

Describe the construction of an electric bulb with the labelled diagram.

^^vFkok OR^^

fo|r bLrjh dk ukekfdr fp= cukdj mldh jpuk dk o.ku dhft,A 2$2=¼4½

Describe the construction of an electric iron with labelled diagram.

i'u 15& i;kx }kjk fl) dhft, fd idk'k l'y"k.k dh fØ;k e O_2 xl fudyrh gA

Prove experimentally that oxygen gas is evolved during photosynthesis. 2$3=¼5½

^^vFkok OR^^

ok"ikRl tu fØ;k d fy; i;kx fyf[k; A ¼5½

Write an experiment for transpiration.

i'u 16& ckxokuh e mi;Dr fuEu midj.kk dk fp= cukdj mudh mi;kfxrk fyf[k;A xrh] QkoMk (2½+2½=5)

Write the utility of the following equipments with diagram used in the gardening.

GAINTEE, Phawada (Spade)

^^vFkok OR^^

ckxokuh e flpkbZ ,o ÑUru d dke e vku oky fuEu ;=k dk fp= cukdj mudh mi;kfxrk fyf[k; A

gtkjk] gfl;k (2½+2½=5)

Write the utility of the following equipments with diagram used in the irrigation and pruning-

HAZARA, SICKLE (Hansiya)

i'u 17& ØlhQjh dy dk fuEu fcUnvk ij o.ku dhft; A 2$1$2=¼5½

1- i"i o.ku] 2- i"i l=] 3- vkfFkd egRo ¼dkb nk½

Describe the family 'CRUCIFERAE' on the following points-

1. Flower description, 2. Floral formulla,
3. Economic importance (any two)

^^vFkok OR^^

lkyulh dy dk fuEu fcUnvk ij o.ku dhft; A 2$1$2=¼5½

1- i"i o.ku] 2- i"i l=] 3- vkfFkd egRo ¼dkb nk½

Describe the family 'SOLONACEAE' on the following points-

1. Flower description, 2. Floral formulla,
3. Economic importance (any two)

i'u 18& l{en'kh dk fuEu fcUnvk ij o.ku dhft , A 3$3=¼6½

dk; fof/k] fl)kr

Describe about microscope on the following points -

Working method, Principle

^vFkok OR**

iPNk;k ,o miNk;k d vk/kkj ij l;xg.k ,o pUnxg.k dk o.ku dhft ; A

Discribe about solar and lunar eclipse on the basis of umbra and penumbra.

3$3=¼6½

i'u 19& fdUgh 6 ykHknk;d thok.kvk dk vkfFkd egRo fyf[k; A (1x6=6)

Write about economic importance of any six useful bacteria.

^vFkok OR**

fdUgh rhu ekuo jkx mRiUu dju oky thok.k ,o rhu ikni jkx mRiUu dju oky thok.k dk uke ,o mudl mRiUu gku oky jkxk d uke fyf[k, A (1x6=6)

Write the name of any three human and three plant diseases causing bacteria along with the name of disease caused by them.

&&&00&&&

lEiy mRrj

mRrj 1 ¼v½& lgh fodYi %& ¼1 x 5 = 5½ 5 vd

(i) ¼v½ vdkcfud

(ii) ¼v½ lkjy lheV

(iii) ¼v½ nokb;k e

(iv) ¼c½ tk;kx

(v) ¼v½ thok.k

¼c½& fjDr LFkku %& ¼1 x 5 = 5½ 5 vd

(i) fdj.k it

(ii) mnklhu

(iii) /kukRed

(iv) lkfM;e dkckuV

(v) lfDVd

mRrj 2& bUn/ku"k cjlkr e fn[kkb iMrk g ,o bld cuu dk dkj.k idk'k dk o.k fo{ki.k gkrk gA 1$1 = 2 vd

mRrj 3& fo|r pEcd nk idkj d gkr g 1$1 = 2 vd

1- LFkkb] 2- vLFkkb

mRrj 4& fdlh rkj e fo|r /kkjk iokfgr dju e mld lehi pEcdh; {k= mRiUu gkrk gA ¼2½

mRrj 5& vuekiu dh ifØ;k e ,lk foy;u ftldh lkUnrk Kkr gk iekf.kd foy;u dgykrk gA ¼2½

mRrj 6& ,lk foy;u ftle FkkMh ek=k e vEy ;k {kkj feyk nu l mld **pH** eku e dkb ifjoru ugh gkrk g] cQj foy;u dgykrk gA ¼2½

mRrj 7& vf/kd rki ij fQykeV dk Hkki cuuk :d tkrk g ftle cYc vf/kd fnuk rd dk; dj ldr g A

mRrj 8& vEy ,o {kkj dk vkil e feyku ij tc vEy vkj {kkj d x.k u"V gk tk; rk ,lh fLFkfr dk mnklhdj.k dgr g A

mnkgj.k %& $Na\,OH + 2\,HCl \;\&\; Nacl_2 + H_2O$

¼;k led{k ifjHkk"kk ;k mnkgj.k nu ij½

mRrj 9& iPNk;k dh ifjHkk"kk fy[ku ij M< vd

miPNk;k dh ifjHkk"kk fy[ku ij M< vd

mRrj 10& fdpu xkMu d rhu mi;kx fy[ku ij 1 vd A

mRrj 11& fuEu dk mnkgj.k lfgr le>kb; %&

mRijd fo"k %& dN inkFk viuh l{e mifLFkfr l mRijd dk fuf"Ø; dj nr g ;k fØ;k'khyrk ?kVk nr g] mRijd fo"k dgykr g A t l & H_2SO_4 dh Li'k fof/k e $SO_2 + O_2$ d xlh; feJ.k e vklfud vkDlkbM dh FkkMh Hkh mifLFkfr gk rk lyfVue dh mRij.k 'kfDr u"V gk tkrh g vr% vklfud mRijd fo"k dgykrk g A

mRijd mRlkgd %& dN inkFk Lo; mRijd ugh gkr fdUr mRijd dh fØ;k'khyrk dk c<ku dh {kerk j[kr g budh l{e ek=k l mRijd dh 'kfDr c< tkrh g bUg mRijd mRlkgd dgr gA NH_3 cuku dh gcj fof/k e ykg p.k d lkFk mifLFkr MO mRijd mRlkgd dk dk; djrk gA

vFkok

mRij.k D;k gA fdUgh nk mRijdk d uke o x.k 2$1$1=¼4½

mRij.k %& og inkFk tk viuh mifLFkfr ek= l jklk;fud fØ;k dh xfr dk ?kVk ;k c<k nrk g vkj Lo; fØ;k d vr e Hkkj o jklk;fud lxBu dh nf"V l viofrr jgrk g mRijd dgykrk gA

mRijd d uke & mi;kx

1½ MnO_2 & eXuhV Mkb vkDlkbM dk i;kx i;kx'kkyk e O_2 xl cuku e gkrk gA

2½ vk;ju vkDlkbM Fe_2O_3 ;g gcj fof/k l vekfu;k xl cuku d dke vkrk gA

¼mijkDr d vfrfjDr lgh uke o mnkgj.k fy[ku ij 1$1 vd fn;k tko½

mRrj 12& vkDlh 'olu ,o vukDlh 'olu e dkb pkj vrj %& ¼4½

	vkDlh 'olu	vukDlh 'olu
1	;g O_2 dh mifLFkr e i.k gkrh gA	;g O_2 dh vuifLFkfr e i.k gkrh gA
2	bl fØ;k e Hkkstu dk i.k vkDlhdj.k gkrk gA	vi.k vkDlhdj.k gkrk g
3	bl fØ;k d vr e ty o CO_2 curk gA	bl fØ;k d vr e vYdkgy rFkk CO_2 dk fuek.k gkrk g A
4	bl fØ;k d vr e 38 ATP dk fuek.k gkrk gA	ble 2] ATP dk fuek.k gkrk gA

¼mijkDr ;k vU; led{k ij 1&1 vd fn; tko½

vFkok

'olu o idk'k l'y"k.k e dkb pkj vrj %& 1$1$1$1=¼4½

	'olu	idk'k 'olu
1	bl fØ;k e O_2 xg.k dh tkrh g CO_2 fudkyh tkrh gA	bl fØ;k e CO_2 xg.k dh tkrh g ,o O_2 fudkyh tkrh gA
2	;g fo[kMdkjh fØ;k gA	;g fuek.kdkjh fØ;k gA
3	ble tfVy inkFk] ljy inkFkk e cny tkr g A	ble ljy inkFk tfVy cur g A
4	;g fØ;k lHkh le; gkrh gA	;g fØ;k doy idk'k e i.k dh tkrh gA
5	bl fØ;k e Åtk [kp gkrh gA	bl fØ;k e Åtk lfpr gkrh gA
6	bl fØ;k dk lehdj.k $C_6H_{12}O_6+6O_2$--->$6H_2O+ 6CO_2+$ 673kcl	bl fØ;k dk lehdj.k fHkUu g $6CO_2+12H_2O+$ Dykjkf Qy $C_6H_{12}O_6+6H_2O+6CO_2$

mRrj 13& dkykbMh foy;u d dkb pkj x.k ¼iR;d e 1 vd½

1- dkykbMh d.k l{en'kh }kjk foy;u e n[k tk ldr g A

2- ;g foy;u fo"kekxh gkrk gA

3- dkykbMh d.k fQYVj iij l ljyrk iod ikj gk tkr g A

4- dkykbMh d.k fujUrj VMh e<h xfr djr jgr g A bl xfr dk ckmuhxfr dgr g A

¼vFkok vU; led{k x.k fy[ku ij 1x 4 = 4 vd fn; tko½

vFkok

dkykjMh foy;u d dkb pkj mi;kx %& 1$1$1$1=¼4½

1- ty l v'kf);k nj dju ij ty 'kk/ku d mi;kx e A

2- /kvk l dkcu d d.k vyx dju e dkj[kku dh fpefu;k e mi;kx

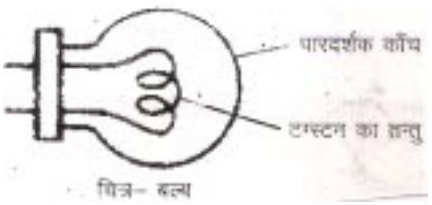
3- ikuh l cM 'kgjk e ukyh d xn ikuh vyx dju e mi;kx gkrk gA

4- jcj m|kx e mi;kx fd;k tkrk gA

5- vk"kf/k d :i e lkn; ilk/ku d :i e] mi;kx fd;k tkrk gA

¼;k vU; led{k mRrj ij vd fn; tko½

mRrj 14& fo|r cYo dk ukekfdr fp= cukdj mldh jpuk dk o.ku dhft, A 2$2=¼4½



चित्र- बल्ब

bldk vkfo"dkj ,Mhlu u fd;k Fkk ;g dkp dk cuk gvk cYc gkrk g ftld vnj fjDr LFkku ;k fu;kr jgrk gA vfØ; xl Hkjh jgrh g A bl dkp d cYc e VxLVu dk rr yxk jgrk g tk fo|r iokg l 'kh?k gh jDr rlr xe gkdj idk'k nrk g rFkk fo|r iokg cn dju ij 'kh?k gh BMk gk tkrk g A bl fo|r cYc dk i;kx ge ?kjk] vkfQlk rFkk lkotfud LFkku ij idk'k ikIr dju d fy; djr g A

vFkok

fo|r bLrjh dk ukekfdr fp= o jpuk %& fp= 2$jpuk 2 ¾ 2$2=¼4½

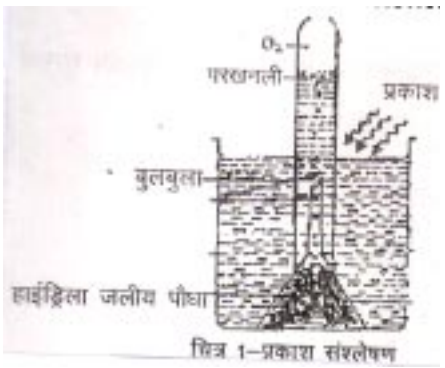
fo|r bLrjh e ukbØke tlh feJ /kkr dk ,yhoV vHkd dh irk d chp nck jgrk g bu ijrk dk ,EcLVkl dh lyV d uhp j[k fn;k tkrk g ,EcLVkl fo|r jk/ku dk dk; djrk g] ftle bLrjh d ykg oky Hkkx e fo|r /kkjk ugh cg ikrh A ,yhoV e l iokfgr gku ij ; yky xe gkdj rki mRiUu

djrk g]

ft le ykg dh bLrjh xe gk tkrh gA

¼fo|r bLrjh o.ku dju ij 2 vd] fp= ij 2 vd fn; tko½

mRrj 15& i;kx }kjk fl) dhft, fd idk'k l'y"k.k dh fØ;k e O_2 xl fudyrh g%& i;kx & ,d chdj e tyh; ik/kk gkbfMyk ydj bl dkp dh dhi l <d dj j[kr g chdj ty l Hkj nr g A ,d ty l Hkjh ijh ij[k uyh ydj mYVh j[k nr g A l; d idk'k dh mifLFkfr e idk'k l'y"k.k fØ;k }kjk vkDlhtu curk g tk dhi l gkrh gb ij[kuyh e ,df=r gkrh jgrh g ty /khj&/khj mrjrk tkrk g A ij[kuyh e ,df=r xl d lid e tyrh gb rhyh y tku ij og vkj rhork l tyrh g vr% ;g fl) gkrk g fd idk'k l'y"k.k fØ;k e O_2 xl fudyrh gA ¼3$2¾5½



चित्र 1–प्रकाश संश्लेषण

vFkok

ok"ikRl tu fØ;k i;kx }kjk fl) djuk ¼fp= 2 vd] o.ku 3 vd ¾ 5½

ok"ikRl tu dk in'ku %& xey e yx ik/kk dk ydj xey dk ikyhfFku }kjk <ddj ,d dkp dh lyV ij j[kdj dkp d cytkj }kjk <d nr g ,o r;kj i;kx dk l; d idk'k e j[k nr g A 7&8 ?kV i'pkr cytkj d Åijh Hkhrjh lrg ij ikuh dh cn fn[kkb nu yxrh g A ; cn ok"ikRl tu fØ;k d i'pkr fudyh ok"i l fufer gA

चित्र– वाष्पउत्सर्जन का प्रदर्शन

mRrj 16& ckxokuh e mi;Dr fuEu midj.k dkb&2 ¼2½+2½=5½

1- xrh & mi;kfxrk %&

1½ iFkjhyh txg d iRFkj gVkdj m|ku cuku d fy; A

2½ txg dk lery cuku d dke vkrk gA

चित्र– गैंती

2- QkoMk & mi;kfxrk %&

1½ QkoMk xgjh xMkb;k d fy, dke vkrk gA

2½ QkoMk ck/k ck/ku] ukyh cuku] feVVh p<ku] [kkn feyku o Hkfe dk lery dju d dke vkrk gA

चित्र–फावड़ा

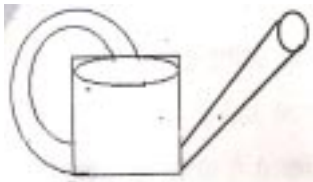
vFkok

ckxokuh e flpkb ,o ÑUru d dke e vku oky 2 ;=k d fp= o mudh mi;kfxrk %&

gtkjk] gfl;k

1- gtkjk %& 1½ bl midj.k }kjk D;kfj;k e ikuh nu dk lefpr ic/k fd;k tkrk gA

2½ m|ku d uUg ik/kk dk lhpu d fy; Q0okj d :i e bldk mi;kx fd;k tkrk gA



चित्र–हजारा

2- gfl;k %& 1½ ;g v/kpnkdkj vkdfr dk gRFk ;Dr ;= g ;g 'kkd ekuh dk Åij&Åij l dkVu d dke vkrk gA

चित्र– हसिया

mRrj 17& ØlhQjh dy dk fuEu fcUnvk ij o.ku dhft; A 2$1$2=¼5½

1- i"i o.ku] 2- i"i l=] 3- vkfFkd egRo ¼dkb nk½

i"i o.ku dju ij 2 vd

vkfFkd egRo & elky] Hkktu] ry] vk"kf/k e l fdlh d nk egRo fy[ku ij 2 vd fn;k tko A

vFkok

lkyulh dy dk fuEu fcUnvk ij o.ku dhft; A 2$1$2=¼5½

1- i"i o.ku] 2- i"i l=] 3- vkfFkd egRo ¼dkb nk½

i"i o.ku dju ij 2 vd

vkfFkd egRo & Hkktu] elky] vk"kf/k] rEckd] lnjrk d fy;] [kjirokj e l fdlh nk egRo fy[ku ij 2 vd fn; tko A

mRrj 18& l{en'kh dk fuEu fcUnvk ij o.ku dhft, A 3$3=¼6½

dk; fof/k] fl)kr

l{en'kh dk;fof/k fy[ku ij 3 vd] fl)kr fy[ku ij 3 vd fn; tko A

vFkok

iPNk;k ,o miNk;k d vk/kkj ij l;xg.k ,o pUnxg.k dk o.ku djukA

l;xg.k o.ku dju ij 3 vd A

pUnxg.k o.ku dju ij 3 vd A 3$3=¼6½

mRrj 19& ykHknk;d thvo.kvk dk vkfFkd egRo %&

fljdk cuku e] lkbfVd vEy e] ,Ydkgy cuku e] iuhj ngh eD[ku cuku e] pk; rEckd 0;olk; e] vpkj] uhy] tV m|kx e] pe jkx] Hkkt u cuku e] vk"kf/k m|kx e thok.k ce] df"k e A

mijkDr e l fdlh 6 fcUnvk ij o.ku dju ij iR;d e 1&1 vd fn;k tkoA

vFkok

fdUgh rhu ekuo jkx mRiUu dju oky thok.k ,o ikni jkx mRiUu dju oky thok.k d uke ,o mue mRiUu gku oky jkxk d uke %&

ekuo jkx		**thok.k dk uke**
{k; jkx ;k rifnd	&	ekbdkoDVhfj;e V;cjdykfle
gtk	&	ckbfo;kdkyjh
VkbQkbM	&	lkYeku lk VkbQk lk

ikni jkx		**thok.k dk uke**
iRrkxkHkh dk dkyk jrvk	&	tUFkekuk l dEifLVl
uk'kikrh ,o lo dk tyu vxekuh	&	bohfu;k ,feykokjk
uhc dk ddj jkx	&	t lkbVh

iR;d ij 1 vd] fu/kkfjr g jkx o thok.k dk uke fy[ku ij 1&1 vd fn; tko A

&&&00&&&