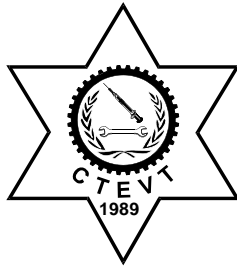


**MINIMUM REQUIREMENTS**

**FOR**

**DIPLOMA IN AUTOMOBILE ENGINEERING**

**PROGRAMME**



**Council for Technical Education and Vocational Training**

**Polytechnic Division**

**Sanothimi, Bhaktapur**

**NEPAL**

**2076**

k|Fljlws lzIff tyf Jofj;flos tfnLd kl/ifb\ lgodfjnL 2051 sf]  
lgod 17, 18, 19 / 24 df Joj:yf eP cg";f/ l\*Knf]df Og  
c^f]df]jfOn O{lgHlgol/é sfo{qmd ;+rfng ug]{ ;+:yfx?n] k'/f  
ug"{kg]{ k'jf{wf/x?M

**1= cfj]bgM**

1=1 :jLs[ltsf] ucSc ScúwNô SÑ½Ñé SsÚcÑaw f awa' je/éca' cēšep eg"{ kg]{% . pQm  
kmf/d kl/ifb\ sfof{noaf^ tf]lsPsf] b:t"/ afktsf] /sda' eμ%a œ'és  
a"emfP kl% k|fKt ug{ ;lsg]%.  
1=2 :jLs[lt lng vf]h]sf] ;+:yf;+u ;DjlGwt lj:t[t k|:tfjgf (Proposal) /  
cfjZos sfuhftx? ;+nUg x"g" kg]{% . k|:tfjgdf lgDg a"+bfx?sf]  
lj:t[t ljj/)f pNn]v ePsf] x"g"kg]{% .

- k|:tfljt ;+:yfsf] gfd .
- &]ufgf -;+:yf vf]Ng] k|b]z÷lhNnf÷g=kf=÷ufp+ kflnsf/j\*f g+=,  
kmf]g g+=, O{d]n, j]a;fO{^\_ .
- ;Dks{ JolQmsf] gfd, &]ufgf, kmf]g g+=, O{d]n .
- sfo{qmd k|:tfljt ul/Psf] sfo{s|dsf] gfd / (f+rf .
- p@]Zo .
- ;+:yfs]f kl/ro .
- sfo{qmdsf] cfjZostf klxrfg ;DaGwL tYof° .
- cfjZostf cWoog ul/Psf] tflnsf ;do / tYox? .
- nllft ;d'x .
- k|:tfljt efjL dfgjLo hgzlQmsf] /]vfs+g .
- egf{ Ifdtf ;DaGwdf .
- sfo{qmddf egf{ x"gsf] nflu Go'gtd cfwf/x? .
- sfo{s|dsf] ;do cj]lw .
- kf&\os|d ;DaGwL hfgsf/L .
- k|lzIfsx?sf] Joj:yf .
- k|:tfljt tfnLd sfo{s|dsf] nflu cfjZos kg]{ ef}lts  
k'jf{wf/x? .
- z]lifs ;fdfu|L, k|of]uzfnf ;fdfu|L / k|of]uzfnfsf] Joj:yf  
jf/] .
- cfly{s k|:tfjgf .
- k":tsfnosf] Joj:yf .
- %fqfjf;sf] Joj:yf .
- ;+rfns ;ldltsf] Joj:yf .
- ;+:yfxsx?s]f gfdfjnL .
- ;+:yfsf] sd{rf/L ;+u&g tflnsf .
- sfo{qmd ;+:yf ;+rfng ug]{ JolQmx?sf] gful/stf k|df]f kqsf]]  
k|ltlnlk .
- k|:tfljt sfo{qmd ;+:yf JolQmn] ;+rfng ug]{ jf ;+:yfn]  
;+rfng ug]{  
v"nfpq" kg]{ .

**2= ;+:yf :jLs[lt lb+bf ;+:yf ;DaGwg z"Ns afkt kl/ifb\n] tf]s]  
cg";f/sf] z"Ns kl/ifb\s] a)+s vftfdf hDdf ug"{ kg]{ % .**

**3= ljBfyL{ egf{ ;DjGwL zt{ / k|lqmf (Criteria / Procedure)**

- 3=1 CTEVT ;+u ;DjGwg k|fKt ug]{ ;+:yfx?n] CTEVT áf/f lgwf{l/t u/]sf] zt{ / k|lqmf? ckgfpg" kg]{% .
- 3=2 ;a) k/LIffyL{x? -cfj]bsx?\_ k|j]z k/LIffdf ;lDdnt x"g" kg]{ % . cfj]bssf] Go'gtd z]lIifs of]Uotf tf]lsP cg";f/ x"g]%
- 3=3 k|j]z k/LIffdf ;lDdnt x"g] dWo]x?jf^ of]Uotfqmdfg";f/ egf{ ug"{ kg]{% .
- 3=4 CTEVT n] lgwf{/f u/]sf] eGbf leGb} ;d'x cflbsf] nflu sf]^f /fVg kfOg] %}g .
- 3=5 %fqj[lQ sf]^f tyf egf{ ;DaGwL cGo k|lqmf k|f=lz= tyf Jof=tf= kl/ifb\, kl/Iff lgoGq)f sfof{nosf] egf{ lgb]{lzsfcg";f/ ug"{kg]{% .

**4= kf&\oqmd**

- 4=1 ;DaGwg lng rfxg] ;+:yfn] CTEVT sf] kf&\oqmd dxzfzfvaf^ kfl/t u/]sf] kf&\oqmd nfu" ug"{ kg]{% .
- 4=2 s"g} klq sfo{qmdsf] gfd ;dfg zAbx? /flv kl/jt{g ug{ kfOg] %}g .

**5= cfly{s kIfM**

- 6=1 ;DaGwg k|fKt ug{ rfxg] z]lIifs ;+:yf cfly{s ?kdf ;jn x"g" kg]{% .

**6= ejg tyf k'jf{wf/x?**

sfo{s|d ;+rfng ubf{ Ps ;d'xdf j(Ldf 48 hgf k|lzIffyL{x? /fvL ;}\$flGts sIff ;+rfng ug"{ kg]{% . oxf+ pNn]lvt k'jf{wf/x?sf] ;'rL Ps ;d'x -48 hgf k|lzIffyL[\_ sf] nflu cfjZos kg]{% .

**6=1 ejg**

**M** sIffsf]&f, clkm;, Nofj, k|of]uzfnf / k":tsfno nufot ;a) ;"ljwfsf nflu ;"/lIft, e'sDk k|lt/f]ws ejg x"g" kg]{% . ax'tn] -w]/} tNnf ePsf]\_ ejg ePdf yk sfo{qmdsf] nflu hUUff yk gePklq ;~rfng ug{ ;lsg] % .

**6=2 sIff sf]&f**

**M** k|lt ljBfyL{ 0=75 ju{ ld^/sf] b/n] 3 jif]{ sfo{qmdsf] nflu -k|yd, látLo / t[tLo jif{\_ 3 j^f sIff sf]&f x"g" kg]{% . sIff sf]&fdf k|lzIifs / ljBfyL{sf] nflu cfjZos ^]jn, \*}S; tyf s"rL{sf] Joj:yf x"g" kg]{% .

**6=3 k|of]uzfnf÷js{;k**

**M** ;fdfGo lj!fgsf] nflu cfjZos k|of]uzfnfx? Physics, Chemistry, Computer, Drawing, Welding and Metal, Electrical Workshop Pp^f eGbf a(L sfo{qmd ;+rfng ePdf ;a) sfo{qmdsf] nflu ;+o"Qm x"g]%. Od]n OG^/g]^sf] ;"ljwf ljBfyL{x?sf] ;xh kx+"r x"g] u/L Joj:yfkg ug"{ kg]{% . t/ ;+:yfn] Py]i^ k|of]u u/fpg] ul/ pkof]u ug"{ kg]{% / ;Dk')f{ ljBfyL{x?nfO{ k|of]ufTds cEof; u/fpg] ;"lglZrt ;do tfnLsf x"g" kg]{% . cGoyf yk k|of]uzfnf÷js{;k x"g" kg]{% . Chemistry Lab df cfjZos Tap, Sink/Basin ;lxt Water Supply sf] Joj:yf x"g" kg]{% .

**6=4 ljifout k|of]uzfnf M**

kf&\oqmdn] tf]s] cg";f/sf] %"^\^f %"^\^} ljifout k|of]uzfnfx? x"g" kg]{% . k|of]uzfnfsf] If]qkmn k|lt ljBfyL{ sDtLdf 1 ju{ ld^/ pknAw x"g" kg]{% . o; sfo{qmdsf nflu k|of]uzfnfsf] Go"gtd If]qkmn tfnLsf g+= 1 df pNn]v eP adf]lhd x"g"kg]{% .

6=5 k":tsfno sIf M sfo{qmdsf] nflu sDtLdf 40 ju{ ld^/ If]qkmnsf] k":tsfno sIf x"g" kg]{% . Pp^f eGbf a(L sfo{qmd ;~rfng x"g] ePdf yk sfo{qmdsf] nflu 15 ju{ ld^/ yk If]qkmn x"g" kg]{% . k":tsfnodf kf&\oqmddf pNn]v eP adf]lhdsf k|To]s ljifosf] nflu ljBfyL{ ;+Vofsf] slDtdf 50 k|ltzt kf&\ok":ts x"g" kg]{% .

6=6 k|lzIfs sIf M k|lzIfsx?sf] nflu cWoog / k|lzIf)f tof/Lsf] nflu k|lt k|lzIfs sDtLdf 2=0 ju{ ld^/ If]qkmn pknJw x"g] sfo{ sIfx? x"g" kg]{% .

6=7 k|frfo{ sIf M ;+:yfdf k|frfo{sf] nflu %"^^^}} sfo{ sIfsf] Joj:yf x"g" kg]{% .

6=8 k|zf;g sIf M ;+:yfdf n]vf/k|zf;g sIf %"\$} x"g" kg]{% .

6=9 ;f]wk"% sIf M ljBfyL{, cleefjs / cGo ;/f]sf/jfnfx?nfO{ ;]jf lbg %"\$} ;f]wk"% sIf x"g" kg]{% .

6=10 zf}rfno M k|lzIfs, sd{rf/L / k|lzIfyL{sf] nflu dlxf / k'?if %"\$f %"\$} x"g] u/L 1M20 sf b/n] zf}rfnosf] Joj:yf x"g" kg]{% .

6=11 vfg]kfgL M vfg]kfgLsf] nflu Water Filter/ Euro Guard or Equivalent Water Purifier sf] Joj:yf x"g" kg]{% jf z"\$ lkg] kfgLsf] Joj:yf x"g" kg]{% .

6=12 rd]gf u[x M ;+:yfdf sDtLdf 20 hgfn] vfg;Sg] &fp+ (Dining Room) ePsf] rd]gfu[x x"g" kg]{% . -20 ld^/sf] j/Lk/L ePsf] rd]gf u[xsf] ;Demf}tf u/L k|of]u ug{ ;lsG% .

6=13 v]ns"b ;DaGwL M eln]n, af:s]^jn, Jof\*ld)^g / ^]an^]lg; dWo] sDtLdf Pp^f Outdoor jf Indoor sf]^sf] Joj:yf x"g" kg]{% .

6=14 k|fylds pkrf/ sIf M ;+:yfdf Ifl)fs tyf cfktsfnLg :jf:Yo ;]jfsf nflu rflxg] cf}ifwLx?sf] Joj:yf x"g" kg]{% ;fy} dlxf %fqfx?sf] nflu dlxgfjf/Lsf] ;dodf ;]lg^/L Kof\*sf] Joj:yf x"g" kg]{% .

6=15 O{G^/g]^ tyf jfO{kmfO{ Pl/of M ljBfyL{ tyf cfuGt"sx?sf] nflu ;'rgf k|bfg ug]{ u/L Go"gtD txsf] O{G^/g]^ tyf jfO{kmfO{ Pl/ofsf] Joj:yf x"g" kg]{% .

6=16 j]j;fO{^ M ;+:yfsf] cflwsf/Ls ;'rgf tyf hfgsf/L k|bfg ug]{ u/L bf]xf]/f] ;Dafb ug{ ;lsg] txsf] j]j;fO{^ Joj:yf x"g" kg]{% .

6=17 sfo{qmd ;DaGwgsf] nflu cfzokq (Letter of Intent) k|fKt u/]sf ;+:yfx?n] k|yd / lâtLo jif{sf] nflu cfjZos ejg tyf cGo k'jf{wf/x? tof/ ug"{ kg]{% .

7= sIff sf]&fx?M

;}\$flGts sIff sf]&f tyf k|of]ufTds sfo{zfnfsf] Joj:yf ubf{ qmdzM 48 hgf tyf 24 hgfsf] nflu b]xfo cg";f/sf] Joj:yf x"g" kg]{ . k|yd jif{sf] nflu dfq pknAw kf&\oqmd cg";f/ .

tfnLsf g+= 1

qm=; =	lj]j/)f	ljBfyL{ Ifdtf - hgf_	sf]&fsf] Go'gtD If]qkmn -	s}lkmot
-----------	---------	----------------------------	---------------------------------	---------

			j=dL=_	
1=	;}\$flGts sIff sf]&f	48 hgf	36=00	
2=	ef}lts zf:q k of]uzfnf	24 hgf	24=00	
3=	/;fog zf:q k of]uzfnf	24 hgf	24=00	
4=	sDKo'^/ Nofj	24 hgf	24=00	
5=	On]lS^«sn tyf On]S^«f]lgS; Nofj	24 hgf	24=00	
6=	c^f]df]jfO{n js{;k	24 hgf	130=00	
7=	d]sflgsn js{;k	24 hgf	130=00	

gf]^M dfly pNn]lvt sf]&fx?sf] If]qkmndf pks/)fx?sf] nflu cfjZos kgj{ :^F]/sf] If]qkmn ;dfj]z %}g .

8= k|lzIfs sd{rf/Lsf] Joj:yf M z]lIfs sfo{qmdnfO{ :t/o"Qm agfpg ;+:yfnfO{ cfjZos kgj{ k|frfo{ / k|lzIfs sd{rf/Lsf] Joj:yf b]xfo cg"?k x"g"kgj}{% .

- ;+:yfsf] nflu cfjZos k|frfo{x?, k|lzIfsx? / lje fluo k|d"vx? k')F{sflng ;]jf (Full time) sfnflu x"g"kgj}{ . -Ps eGbf a(L sfo{qmd % eg] .
- hDdf sIff -;}\$flGts tyf k|of]ufTds\_ #)^Fsf] Go'gtd krf; k|ltzt sIff k')f{sflng ;]jfsf lzIfsx?áf/f g} ;+rfng ug"{kgj}{% .
- Pp^f sfo{qmd ;+rfngsf] nflu cfjZos k')f{sflng tyf cf+lzs lzIfsx?sf] egf{ ;DjlGw ;Dk')F{ sfo{ of]hgf k]z ug"{kgj}{ .
- cGo s"g} ;+:yfdf sfo{/t JolQmnfO{ k')f{sflng lzIfs tyf sd{rf/Lsf] ?kdf sfddf /fVg kfOg] %}g .
- ;+:yfdf Faculty / Staff Category Pattern b]xfo jdf]lhd x"g kgj}{% . ;fy} of]Uotf / ;+Vof kf&\oqmdf pNn]v eP adf]lhd x"g" kgj}{% .

Principal  
Heads of Department  
Teaching Faculty  
Lab Technician

9= k|To]s ;]df/i^/df cW^ofkg x"g] lhgx?M

k|To]s ;]df/i^/df s]Dtdf 15 xK\_tsf] sIff -sDtLdf 90 cW^ofkg lhg\_ x"g" kgj}{% h,df chl/"Qm lqmf]snfk / k/LIff;dc ;dfj]z x"g] %}g .

9=1 Ps lbgdf 7 lkl/o\*sf] sIff ;~rfng ug"{ kgj}{ / k|To]s lkl/o\* 50 ldg]^sf] x"g" kgj}{% .

9=2 ljBfyL{ tyf lzIfs cg"kft b]xfo cg";f/ x"g"kgj}{M

- ;}\$flGts sIff 48M1
- ^\o'^f]l/on 24M1
- \*«O{é 24M2
- k|of]ufTds -k|of]uzfnf, sfo{zfnf, (Field Work) sIff 12M1
- k|f]h]S^ sfo{ 6M1

10= k|zf;g tkmlM

k|zf;lgs sd{rf/L tkml{ n]vf tyf k|zf;g ;xfos, sDKo'^/ ck]/^/, nfoa]]l/og, sfof{no ;xof]uL / ;"/Iff uf\*{x?sf] Joj:yf x"g"kgj}{% .

11= s]c^Dessf] Joj:yf/

11=1 ljBfyL{x?sf] cg"kftdf ;a}nfO{ a:g k"Ug] u/L s";L{, a]Gr,  
 \*]:ssf] Joj:yf x"g"kg]{% . \*«O{é sIffdf \*«O{é ^]jn, :^"nsf]  
 Joj:yf x"g"kg]{% .  
 11=2 sfo{zfnfsf] nflu cfjZos kg]{ k|of]uzfnf ^]a"n, s";L{, ¥ofs,  
 b/fhx?sf] Joj:yf x"g"kg]{% .  
 11=3 lzIfs tyf sd{rf/Lx?sf]nflu cfjZos ^]a"n, s";L{, ¥ofs,  
 b/fhx?sf] Joj:yf x"g"kg]{% .

**12= sDKo'^/ g]^jls{é M**

12=1 ljBfnosf sIff sf]&fdf, k|frfo{ tyf lzIfs sIf, n]vf tyf k|zf;g  
 ;d]t If]qdf Go"gtD dfkb)\* cg";f/sf] sDKo'^/ g]^js{ u/]sf]  
 x"g" kg]{% .  
 12=2 h\*fg ul/Psf] g]^js{df Go'gtD ;"/Iff / uf]klgotfsf cfwf/x?sf]  
 Joj:yf x"g" kg]{% .  
 12=3 ;"/Iff tyf df]lg^l/ésf] nflu xftf leq l;l; l^le h\*fg tyf  
 ;~rfng Joj:yf x"g" kg]{% .

**13= sfof{no ;fdfg M**

lzIf)f tyf cGo sfof{no k|of]hgsf] nflu lgDg lnltv pks/)fx?sf]  
 pko"Qm Joj:yf x"g"kg]{ .

Desktop Computer System

Laser Printer

Multimedia Projector

Photocopy Machine

Biometric Attendance System

Networking System (Router, Switch, Cables)

CCTV camera and Monitoring System

**EQUIPMENT LIST FOR Physics****(Mechanics)**

<b>S.N.</b>	<b>Equipment Name</b>	<b>Quantity (No)</b>
1.	Vernier calipers	12
2.	Vernier calipers for demonstration	1
3.	Micrometer screw gauge	12
4.	Spherometer	12
5.	Steel ball 3mm dia	20pc
6.	Steel ball 2mm dia	20pc
7.	Brass spheres with hook dia. 13 mm 20mm	5
8.	Lead spheres with hook dia. 10-20 mm, 13mm, 20mm	5
9.	Stop watch	5
10.	Meter scale (1m long wooden)	10
11.	Thread (for simple pendulum)	1roll
12.	Watch glass (60,80, 100 mm dia)	6pcs
13.	Friction board & incline plane	4
14.	Friction kit	2
15.	Slotted iron weights & hanger (0.5 kg each)	1 set
16.	Slotted iron weights & hanger (100 gram each)	1 set
17.	Slotted iron weights & hanger (100 mg each)	1 set
18.	Standard weight box fractional (1mg-500 grams)	1 box
19.	Traveling microscope	3
20.	Beakers set (500, 250, 100 ml)	6
21.	Corks borer set (set 5-19 mm dia range)	1
22.	Corks (Dia 6 bottom 10 mm Top, 10/13, 13/16)	1 set
23.	Capillary tube (0.5-0.75 mm & Dia)	2 each
24.	Digital Balance	2
25.	Sinker	2
26.	Measuring cylinder	4
27.	Spfcific gravity bottle (50cc)	5
28.	Aneriod barometer	2
29.	Tunning fork (set)	2
30.	Rubber pad	3
31.	Respmance apparatus	3
32.	Cuber for density investigation	2 sets
33.	Retort stand (315X200mm & Rod)	8
34.	Large triple box for the above	8
35.	Clamp	8
36.	Apparatus clamp (set)	8
37.	Mercury	as need

### Heat

S.N.	Equipment Name	Quantity (No)
1.	Thermometers (1/10,-10 to 110 Deg C	15
2.	Thermometers (1/10,-10 to 110 Deg C	10
3.	Maximum Minimum Thermometer	2
4.	Hypsometer	5
5.	Calorimeter (Cooper, 75X50mm)	8
6.	Outer vessel for calorimeter, stirrer & Lid set (for cooper calorimeter for sie 75x50 mm	8
7.	Calorimeter (Aluminium)	5
8.	Joule calorimeter	5
9.	Steam boiler	5
10.	Hygrometer	2
11.	Hygrometer (wet dry bulb	2
12.	Hot plate	2
13.	Test tubes (all sizes 72 sets)	2
14.	Boiling test tubes	2
15.	Test tube holder	10
16.	Test tube stand	5
17.	Filter paper (size 90 &150 box of 200)	5
18.	Wax paraffin (kg)	1
19.	Refrigerator (Ice cube maker)	1

### Optics

S.N.	Equipment Name	Quantity (No)
1.	Plain mirror glass mounted	10
2.	Cylindrical concave mirror glass	8
3.	Cylindrical concave mirror stainless steel	10
4.	Concave mirror	10
5.	Lens double convex	10
6.	Plano convex lens	5
7.	Lens holder	5
8.	Lens holder	6
9.	Prism	3
10.	Glass cube	2
11.	White screen	3
12.	Compact light source	2
13.	Ray optics box	8
14.	Optical bench 1.5 meters	3
15.	Light meter	1
16.	Lycopodium powder	2 pack



S.N.	Equipment Name	Quantity (No)
17.	Adjustable (in height) pin (for expt in concave mirror)	

### Magnetism

S.N.	Equipment Name	Quantity (No)
1.	Rectangular section magnets	6
2.	Horse shoe magnet	2
3.	Magenetizing and Demagnetizing coil	1
4.	Vibration magnetometer box	2
5.	Deflection magnetometer	3
6.	Magnetic needle	10
7.	Plotting compass	6
8.	Dip circle with needle	2

### Current/Electricity

S.N.	Equipment Name	Quantity (No)
1.	Glass tube	5
2.	Ammeter (0.15 Amp)	3
3.	Ammeter	3
4.	Voltmeter	3
5.	Microammeter	1
6.	Glavanometer	2
7.	Wheatstone bridge	3
8.	Poltentiometer	4
9.	Wheatstone bridge	3
10.	Lamp low voltage	8
11.	Contact key	8
12.	Plug switch	5
13.	Plug switch	5
14.	Reverse key	1
15.	Nichrome wire	1 reel
16.	Maganine wire	1 reel
17.	Cooper wire	1 reel
18.	Connecting wires (each)	20
19.	Crocodile clip	20
20.	Rheostat	5
21.	Resistance coil	2
22.	Decade resistance box	4
23.	Daniell cell	4
24.	Low DC voltage power supply	5
25.	Accumulator	3
26.	Battery charger	2
27.	Inductive rack	1

S.N.	Equipment Name	Quantity (No)
28.	Capacity rack	1

**Equipment list for Chemistry**

S.N.	Equipment Name	Quantity (No)
1.	Beaker 100 ml, 250 ml, 500 ml set	48
2.	Glass funnel 25 mm, 75 mm, 95 mm set	48
3.	Porcelain basin 75 mm dia	48
4.	Tripod stand traingular (155 x 120 mm)	48
5.	Wire gauge 140x140 mm	100
6.	Water bath (12 holes) 420 mm	2
7.	Fuel stand (wood 450 mm)	48
8.	Test tube stand plastic 250 mm	24
9.	Test tubes 20 ml	500
10.	Hot box over size 1 (0-500 Deg C)	2
11.	Glass rod 4 mm Dia	10kg
12.	Test tube 10 ml	500
13.	Conical, round glask 250 ml	20
14.	Glass retort 250 ml	50
15.	Watch glass 70 mm dia	50
16.	Burner (Gas) 130 mm	25
17.	Water trough 230 mm dia	25
18.	Iron stand with clamp 600 mm	25
19.	Pipette 10 ml	20
20.	Pipette 20 ml	50
21.	Burette 50 ml	50
22.	Volumetrick flask 250 ml	25
23.	Volumetrick flask 100 ml	105
24.	Volumetrick flask 500 ml	7
25.	Volumetrick flask 1000 ml	4
26.	Weighing table with cap 10 ml	25
27.	Measuring cylinder 10 ml	50
28.	Measuring cylinder 20 ml	10
29.	Measuring cylinder 100 ml	5
30.	Measuring cylinder 500 ml	5
31.	Measuring cylinder 1000ml	5
32.	Measuring cylinder 5000 ml	2
33.	Eudiometer tube 50 ml	50
34.	Watch glass 20 mm dia	50
35.	Reagent bottle (glass) 250 ml	100

<b>S.N.</b>	<b>Equipment Name</b>	<b>Quantity (No)</b>
36.	Reagent bottle (glass) 500 ml	50
37.	Reagent bottle (glass) 1000 ml	50
38.	Small reagent bottle (plastic) 100 ml	100
39.	Dessicator 200 mm Dia	2
40.	Graduated pipette 10 ml	25
41.	Barometer (General lab)	1
42.	Kipp's apparatus (borosil)	1
43.	Distillation unit	1
44.	Digitallation unit	1
45.	Digital balance (range 0.001 gm) Max 2	1
46.	Gas cylinder (LPG for practical) 14	5
47.	Gas regulator 300 mm w/c	5
48.	Gas pipe 10 mm (meters)	3
49.	Plastic wash bottles	48
50.	Nicklechromed tounge	48
51.	Small traingular file	48
52.	Woulf's bottle	12
53.	Thermometer 100 Deg. C	10
54.	Wire gauge	25
55.	Cork borers different sizes	3
56.	Gas jars	24
57.	Thermometer 300 Deg. C	2
58.	Washing Brush 240 mm	25
59.	Circular filter paper 110 mm Dia	50
60.	Asbestoes sheet 150 X150 mm	25
61.	Stainless sheet spatula 145 mm	25
62.	Glass tube 7 mm Dia	50
63.	Thistle funnel (for gas pre) set	25
64.	Short stem funnel (for eg. wt) set	25
65.	Glass tubes, 5mm, 6mm, 8mm Dia	50 each
66.	Rubber Groves	6 pcs
67.	Test tube holder	12 pcs
68.	Lead a cetate	500 gms
69.	Tall Jar	8pcd
70.	Cork pressing instruments	1 set

#### **Welding/Foundry workshop**

<b>S.N.</b>	<b>Equipment Name</b>	<b>Quantity (No)</b>
1.	Arc welding machine with accessories	4
2.	Gas welding set with oxygen and acetylene cylinder and accessories	4

S.N.	Equipment Name	Quantity (No)
3.	Gas cutting set	1
4.	Welding table with appropriate safety measure and ventilation	4
5.	Furnace	1
6.	Pouring equipment	2
7.	Moulding box	5
8.	Foundry hand tools set Shovel, riddle, hand rammer, floor rammer, vent wire, slick, lifter trowel	2
9.	Forging hammer (sledges)	5
10.	Furnace for forsing	1
11.	Anvil	1
12.	Swage block	1
13.	Different Torgs sets	2
14.	Swages sets	2
15.	Different chisels sets (flat, diamond point etc)	2
16.	Filler set	2
17.	Punches set	2
18.	Lathe machine 4'	2
19.	Lathe machine 6'	2
20.	Milling machine (Universal)	1
21.	Shaper	1
22.	Stand drilling machine	1
23.	Bench drilling machine	1
24.	Stand drilling machine	1
25.	Bench grinding	1
26.	Hand grinder	1
27.	Power hacksaw	1
28.	Boring machine (small)	1

### Consumables goods

S.N.	Equipment Name	Quantity (No)
1.	Black sheet 4'x8' 2 mm-6mm	15 sheet
2.	G.I. sheet 4'x8' 1 mm	15 sheet
3.	M.S. rod Ø12, Ø16, Ø25	200 kg
4.	M.S. flat 5x25, 5x40	100 kg
5.	M.S. Angle 40x 40 x5, 50x50x5	100 kg
6.	Welding rods	10kg
7.	Brams (Gas welding rods)	15kg
8.	Pipe M.S. Ø50, Ø40, Ø32, Ø25, Ø12	6m each
9.	Cooling fluid	50lts
10.	Apron	48nos

### Drawing

S.N.	Equipment Name	Quantity (No)
1.	Drawing board with table	24
2.	Drawing pen set	4
3.	Scriber	2

### Tools required for Automobile Workshop

S.N.	Tools Name	Quantity (No)
1	Tool Box	6 pc
	Open ended spanners 6mm to 32mm	
	Ring spanners 6mm to 32mm	
	Socket wrench set 6 to 32 mm	
	Spanner handle ,sliding handle ,ratchet handle ,extension bar universal joint,	
	Screw driver sets ( cross, minus, socket )	
	Plier set (Combination ,slip joint , nose cutting plier, vice grip plier, circlip pliers)	
	Hammer (ball pin and ,mallet)	
	Allen key set,	
	Oil can	
2	Measuring tools	
	Torque wrenches low range and high range	4 Pcs
	Feeler gauges	4 pcs
	Engine compression pressure test gauge.	Petrol 1 and Diesel 1
	Out side micro meters (0 to 25mm ,25to 50mm, 50 to 75mm,75to 100 mm)	1 Set each
	Bore gauge .	1 Set
	Vernier caliper	4 Set
	Magnetic stand	2 Set
	Dial gauge	2 Set
	Multimeters	4 Set
	Hydrometers	4 Set
3	Special service tools and equipments	
	Valve spring compressor	1pc
	Piston ring compressor	3pc
	Piston ring expander	3pc
	Timing tools for distributor type pump.	2pc
	Swan neck tube.	1pc
	Injector puller.	1pc
	Strap wrench	1pc

S.N.	Tools Name	Quantity (No)
	Clutch aligning tool.	1 Set
	Tail pinion depth gauge,	1pc
	Tail pinion bearing pre loading checking tool.	1pc
	Wrench for tail pinion threaded ring .	1pc
	Coupling flange holder.	1pc
	Bearing pullers.	1 Set
	Hub play checking tool	1pc
	Axle stands	4pc
	Hydraulic jacks	4pc
	Floor crane	1pc
	Car hoist / pit	1 pc
	Trolley for aggregate handling.	3pc
	Wheel spanners	4 Set
	Pulley pullers	1 Set
	Drifts.	1 Set
	Fuel injection pump test bench	1pc
	Fuel injector tester.	1pc
	Diagnostic soft ware	1Set
	Electrical Repair Kit	1 Set
	Dent repair tools.	1Set
	Battery charger (Slow and quick)	2 Set
	Engines stand	3pc
	Gear box stands	3pc
	Differential stands.	3pc
	Over head projector	3pc
	Air compressor	1pc
	Wheel balancing machine	1pc
5	Teaching materials	
	Cut model of Engine, gear box and differential	1 Set each
	Latest vehicles (having BCM, ABS ,HVAC, CDL,SRS, EPAS, AMT ,FATC, CAN and 4WD)	
	Petrol Vehicle	2 unit
	Diesel Vehicle	2 unit
	Diesel engines	3 pc
	Petrol engines	3 pc
	Different types of pressure plates	3 pc
	Clutch plates	2pc
	Hydraulic clutch components	3 sets
	Different types of gear boxes	3pc
	Transfer case	3 pc
	Propeller shafts	3pc
	Different types of differential	3pc

S.N.	Tools Name	Quantity (No)
	Test bench (complete vehicle lighting system, horn system , wiper system, instrument cluster , power window, charging and starting system )	1 set each
	Test bench EDC,CRDI and MPFI system.	1 Set each
	Petrol Fuel injector cleaning and testing machine	1 Set
	Vehicle for driving training	1 unit
	Hydraulic brake system components	3sets
	Air brake system components	3sets
	Steering system components (Mechanical, Hydraulic and EPAS)	1 set each
	Car air conditioning system components	1 set
	Motor cycles	3 Unit
	Motor cycle repairing tools	3 set

**Laboratory /sections:**

Engine section  
Transmission section  
EFI and Engine management section  
Wheel tires and Steering section  
Suspension section  
Electrical accessories and lighting section  
Brake section  
Diesel fuel calibration section

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washing facilities etc.

