



REPUBLIK INDONESIA  
KEMENTERIAN HUKUM DAN HAK ASASI MANUSIA

# SURAT PENCATATAN CIPTAAN

Dalam rangka perlindungan ciptaan di bidang ilmu pengetahuan, seni dan sastra berdasarkan Undang-Undang Nomor 28 Tahun 2014 tentang Hak Cipta, dengan ini menerangkan:

Nomor dan tanggal permohonan : EC00202238376, 21 Juni 2022

## Pencipta

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Alamat : Guyangan, RT 001 RW 004, Guyangan, Bangsri, Jepara, JAWA TENGAH, 59453

Kewarganegaraan : Indonesia

## Pemegang Hak Cipta

Nama : **UNIVERSITAS AHMAD DAHLAN**

Alamat : Jl. Pramuka 5F, Pandeyan, Umbulharjo, Yogyakarta, DI YOGYAKARTA, 55161

Kewarganegaraan : Indonesia

Jenis Ciptaan : **Program Komputer**

Judul Ciptaan : **Aplikasi Media Pembelajaran Instalasi Motor Listrik Berbasis Android**

Tanggal dan tempat diumumkan untuk pertama kali di wilayah Indonesia atau di luar wilayah Indonesia : 21 Juni 2022, di Yogyakarta

Jangka waktu perlindungan : Berlaku selama 50 (lima puluh) tahun sejak Ciptaan tersebut pertama kali dilakukan Pengumuman.

Nomor pencatatan : 000354003

adalah benar berdasarkan keterangan yang diberikan oleh Pemohon.  
Surat Pencatatan Hak Cipta atau produk Hak terkait ini sesuai dengan Pasal 72 Undang-Undang Nomor 28 Tahun 2014 tentang Hak Cipta.



a.n Menteri Hukum dan Hak Asasi Manusia  
Direktur Jenderal Kekayaan Intelektual  
u.b.  
Direktur Hak Cipta dan Desain Industri

Anggoro Dasananto  
NIP.196412081991031002

Disclaimer:

Dalam hal pemohon memberikan keterangan tidak sesuai dengan surat pernyataan, Menteri berwenang untuk mencabut surat pencatatan permohonan.


**LAMPIRAN PENCIPTA**


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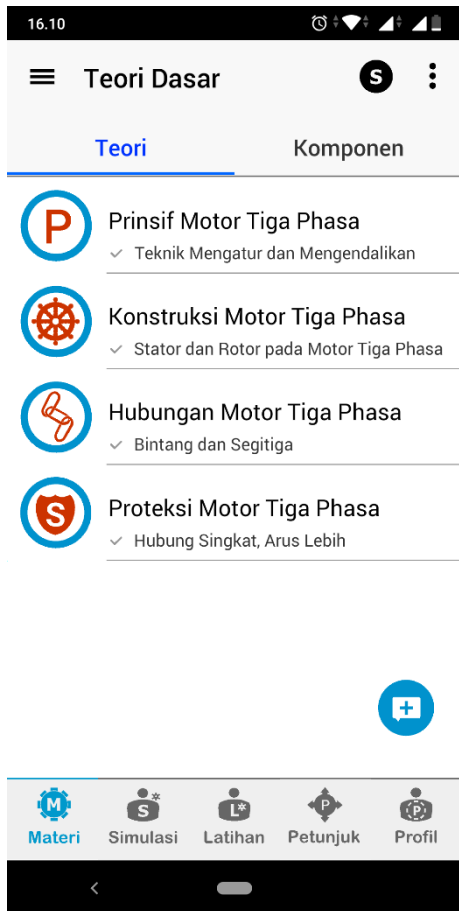
**APLIKASI MEDIA PEMBELAJARAN INSTALASI MOTOR LISTRIK  
BERBASIS ANDROID**

**A. Cara Penggunaan**

	<p>Logo aplikasi "INSTALASI MOTOR LISTRIK"</p> <p><b>Link Download:</b></p> <p><a href="https://s.uad.id/aplikasi_IML">https://s.uad.id/aplikasi_IML</a></p>
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	<p><b>Splash screen</b> aplikasi IML.apk Bertuliskan:</p> <p style="text-align: center;">INSTALASI MOTOR LISTRIK KELAS XI</p> <p style="text-align: center;">TEKNIK INSTALASI PEMANFAATAN TENAGA LISTRIK SEKOLAH MENENGAH KEJURUAN <b>DISDIKPOR</b></p> <p>Menunjukkan bahwa aplikasi ini digunakan untuk pembelajaran mata pelajaran Instalasi Motor Listrik (IML) di SMK pada program keahlian Teknik Instalasi Pemanfaatan Tenaga Listrik (TIPTL)</p>
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### Menu Utama dan Teori Dasar

Menampilkan tombol menu pilihan Teori Dasar mata pelajaran IML, antara lain:

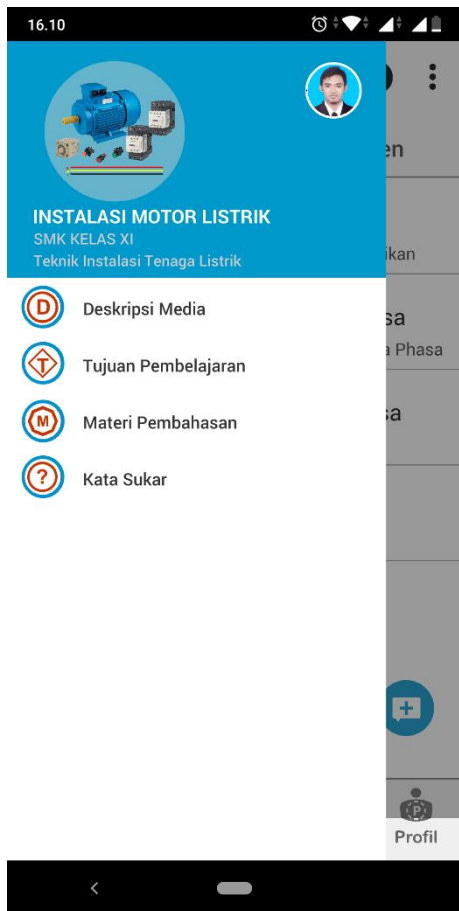
1. Prinsip Motor Tiga Phasa
2. Konstruksi Motor Tiga Phasa
3. Hubungan Motor Tiga Phasa
4. Proteksi Motor Tiga Phasa



### Komponen

Menampilkan tombol menu pilihan materi Komponen, antara lain:

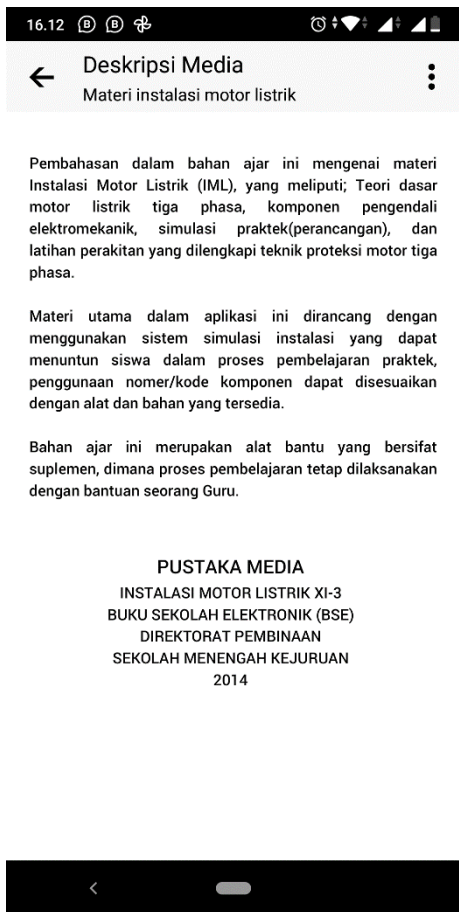
5. Kontaktor Magnet
6. Tombol Tekan
7. Thermal Over Load
8. Lampu Indikator
9. Relay Penunda Waktu
10. Miniature Circuit Breaker
11. Sakelar Selektor



### Menu Slide

Menampilkan tombol menu pilihan tentang aplikasi IML, antara lain:

- 12. Deskripsi Media
- 13. Tujuan Pembelajaran
- 14. Materi Pembahasan
- 15. Kata Sukar



### Deskripsi Media

Menampilkan keterangan tentang aplikasi IML secara singkat.

Setelah mengikuti seluruh kegiatan pembelajaran yang terdapat pada bahan ajar ini siswa diharapkan mampu memahami dan menjelaskan tentang pengendali elektromekanik, dengan ruang lingkup materi:

1. Pengasutan motor induksi tiga phasa
2. Komponen pengendali elektromekanik
3. Proteksi motor induksi tiga phasa
4. Pengontrolan operasi motor induksi tiga phasa
  - a. Dengan DOL(Direct On Line)
  - b. Dua arah putaran (Forward-Reverse)
  - c. Berurutan (Squence Control)
  - d. Penunda waktu (Time Delay Relay)
  - e. Bintang-Segitiga (Star-Delta/Y- $\Delta$ )

### Tujuan Pembelajaran

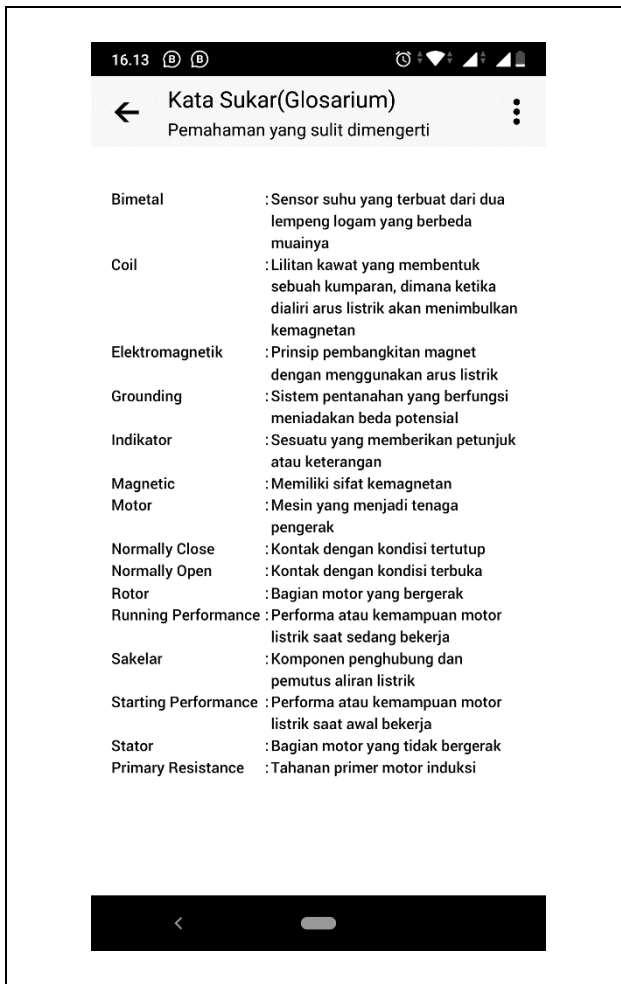
Menampilkan tujuan pembelajaran yang akan dicapai melalui materi atau konten yang terdapat pada aplikasi IML.

#### MATERI POKOK DAN SUB MATERI POKOK

NO.	MATERI POKOK	SUB MATERI POKOK
1	Teori dasar motor induksi tiga phasa	- Prinsip motor induksi tiga phasa - Konstruksi motor induksi tiga phasa - Hubungan motor induksi tiga phasa - Proteksi motor induksi tiga phasa
2.	Komponen Pengendali Elektromagnetik	- Kontaktor magnet (magnetic Contactor) - Tombol tekan (push button) - Thermal Over Load Relay (TOR/TOL) - Lampu indikator - Relay penunda waktu (Time Delay Relay) - Miniature Circuit Breaker - Sakelar Selektor
3.	Pengontrolan operasi motor induksi tiga phasa	- Direct On Line (DOL) - Dua arah putaran (forward-reverse) - Berurutan (Squence Control) - Penunda waktu (Time delay relay/TDR) - Bintang-Segitiga (Star-Delta/Y- $\Delta$ )

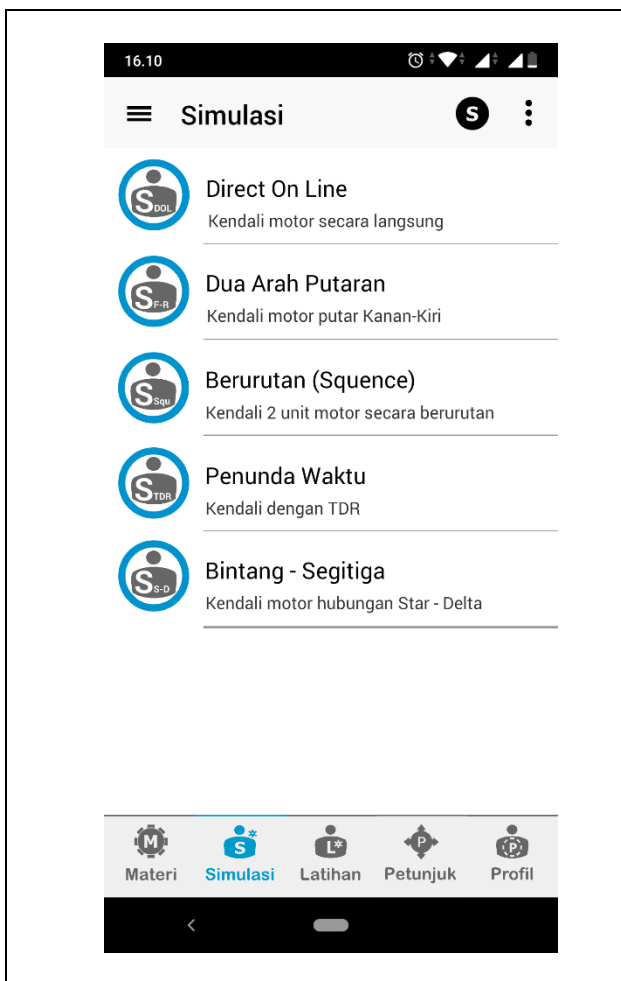
### Materi Pembahasan

Menampilkan materi pokok dan sub materi yang tertera pada aplikasi IML.



### Kata Sukar (Glosarium)

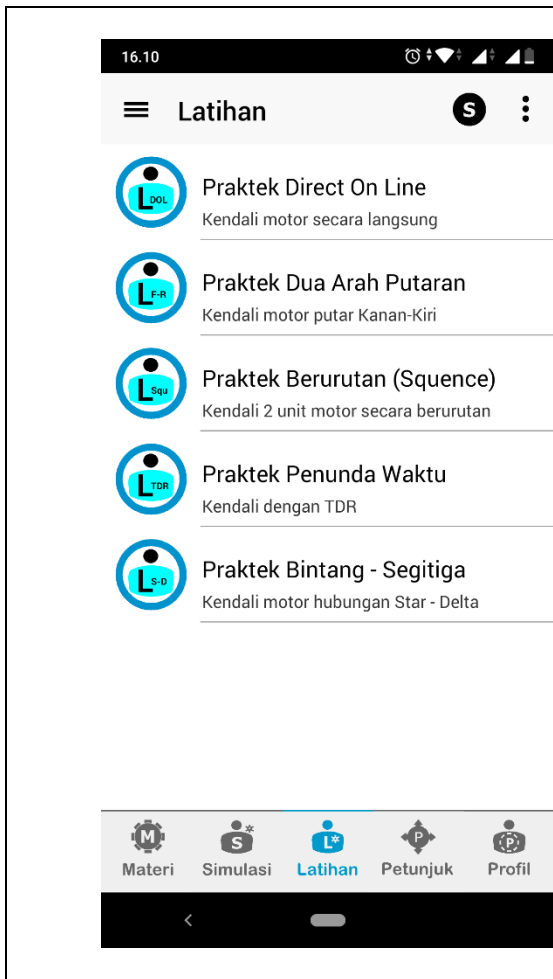
Menampilkan data kata-kata sukar yang sulit dimengerti dalam aplikasi media pembelajaran IML.



### Simulasi

Menampilkan menu untuk simulasi dari apa yang akan di praktikkan:

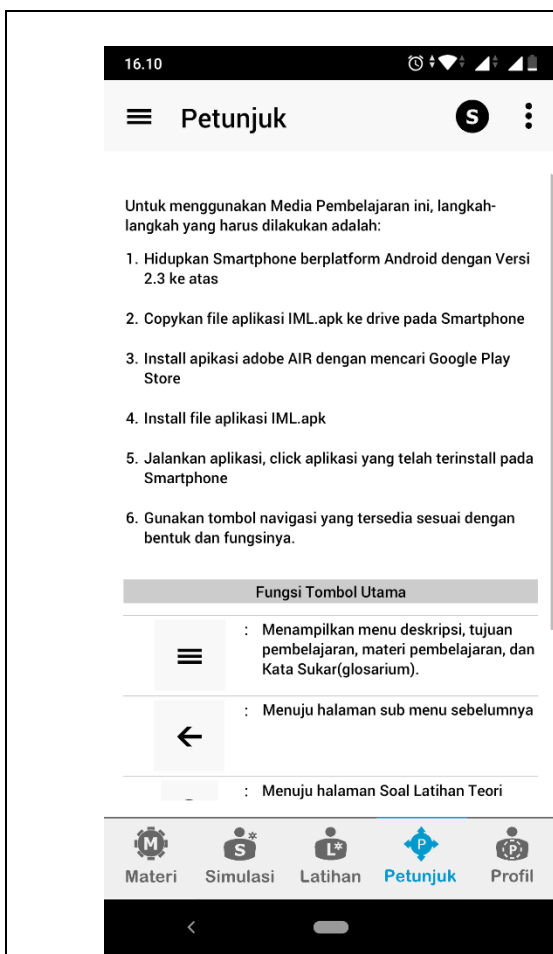
1. Praktik Direct On Line
2. Praktik Dua Arah Putaran
3. Praktik Berurutan (*Sequence*)
4. Praktik Penunda Waktu
5. Praktik Bintang-Segitiga



## Latihan

Menampilkan menu untuk latihan atau job praktikum:

6. Praktik Direct On Line
7. Praktik Dua Arah Putaran
8. Praktik Berurutan (*Squence*)
9. Praktik Penunda Waktu
10. Praktik Bintang-Segitiga



## Petunjuk

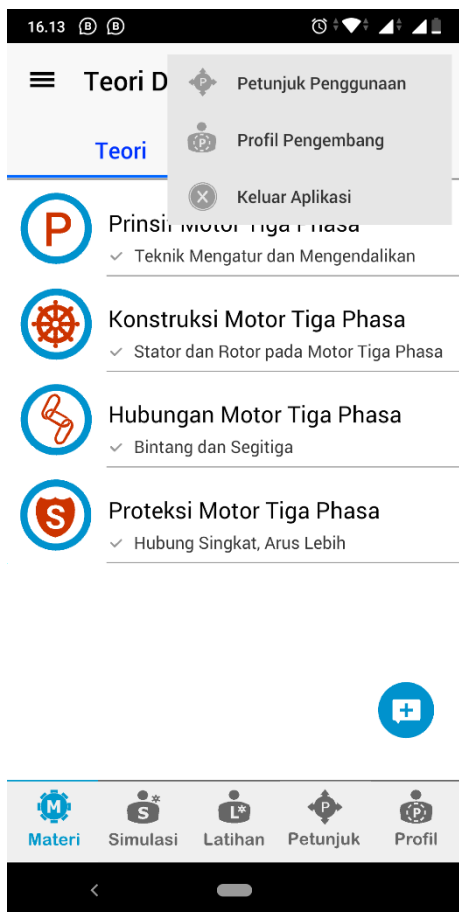
Berisikan petunjuk cara penggunaan aplikasi IML





### Profil Pengembang

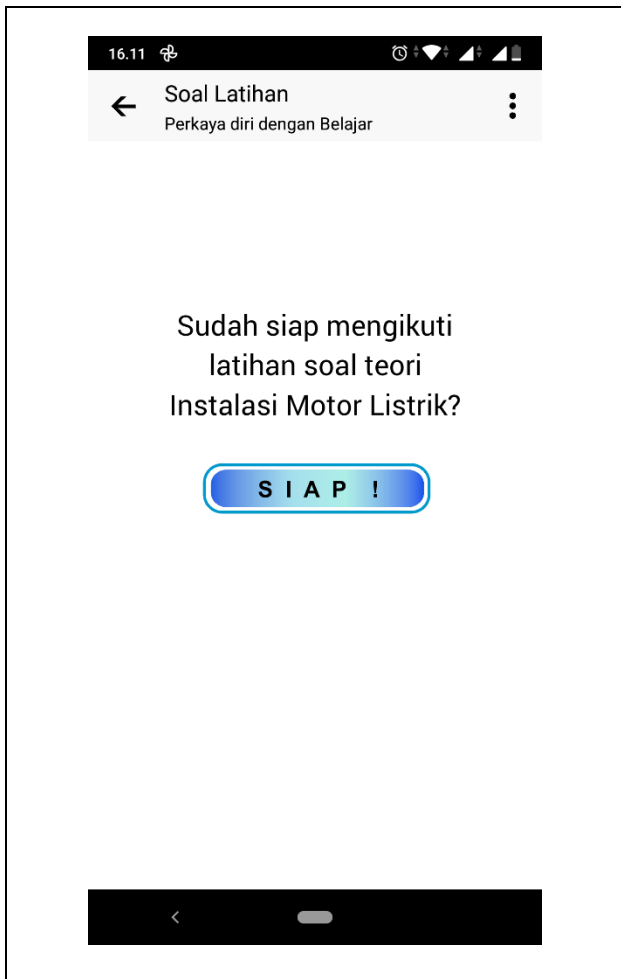
Menampilkan data profil pengembang dan konsultan aplikasi.



### Menu Tombol Kanan:

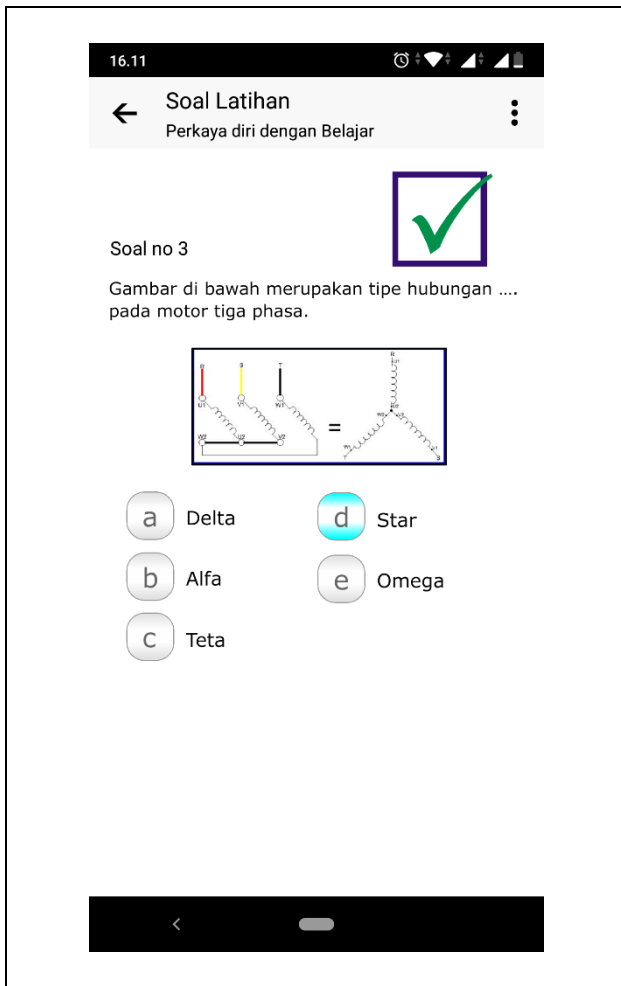
Berisikan tiga pilihan tombol, antara lain:

1. Petunjuk Penggunaan
2. Profil Pengembang
3. Keluar Aplikasi



**Soal Latihan**

Menampilkan pertanyaan untuk memastikan bahwa siswa siap mengerjakan latihan. Disediakan tombol SIAP untuk mengerjakan soal latihan.



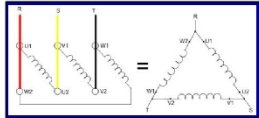
**Bentuk Soal Latihan dan tanda pilihan Benar**

Ketika jawaban yang dipilih salah maka akan muncul tanda **v hijau** pada bagian atas soal.

Jawaban anda BENAR, yaitu a.

**Penjelasan :**

Gambar Hubungan Segitiga(Delta)



Soal selanjutnya



**Keterangan Jawaban Benar**

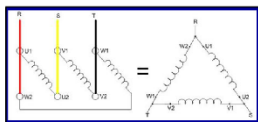
Menampilkan penjelasan jawaban yang benar, sehingga siswa dapat belajar dan mengingat jawaban yang benar.

Tombol **Soal Selanjutnya** untuk melanjutkan latihan soal.



Soal no 1

Gambar di bawah merupakan tipe hubungan .... pada motor tiga phasa.



- a Delta
- b Alfa
- c Teta
- d Star
- e Omega



**Pilih dan Jawaban Salah**

Ketika jawaban yang dipilih salah maka akan muncul tanda **X merah** pada bagian atas soal.

Jawaban anda SALAH, yang benar a.

**Penjelasan :**

Bagian motor induksi yang tidak bergerak atau statis disebut Stator.

Soal selanjutnya

**Jawaban Salah**

Menampilkan penjelasan jawaban yang benar, sehingga siswa dapat belajar dan mengingat jawaban yang benar.

Tombol **Soal Selanjutnya** untuk melanjutkan latihan soal.

Jawaban anda :

Benar = 7

Salah = 3

Nilai = 70

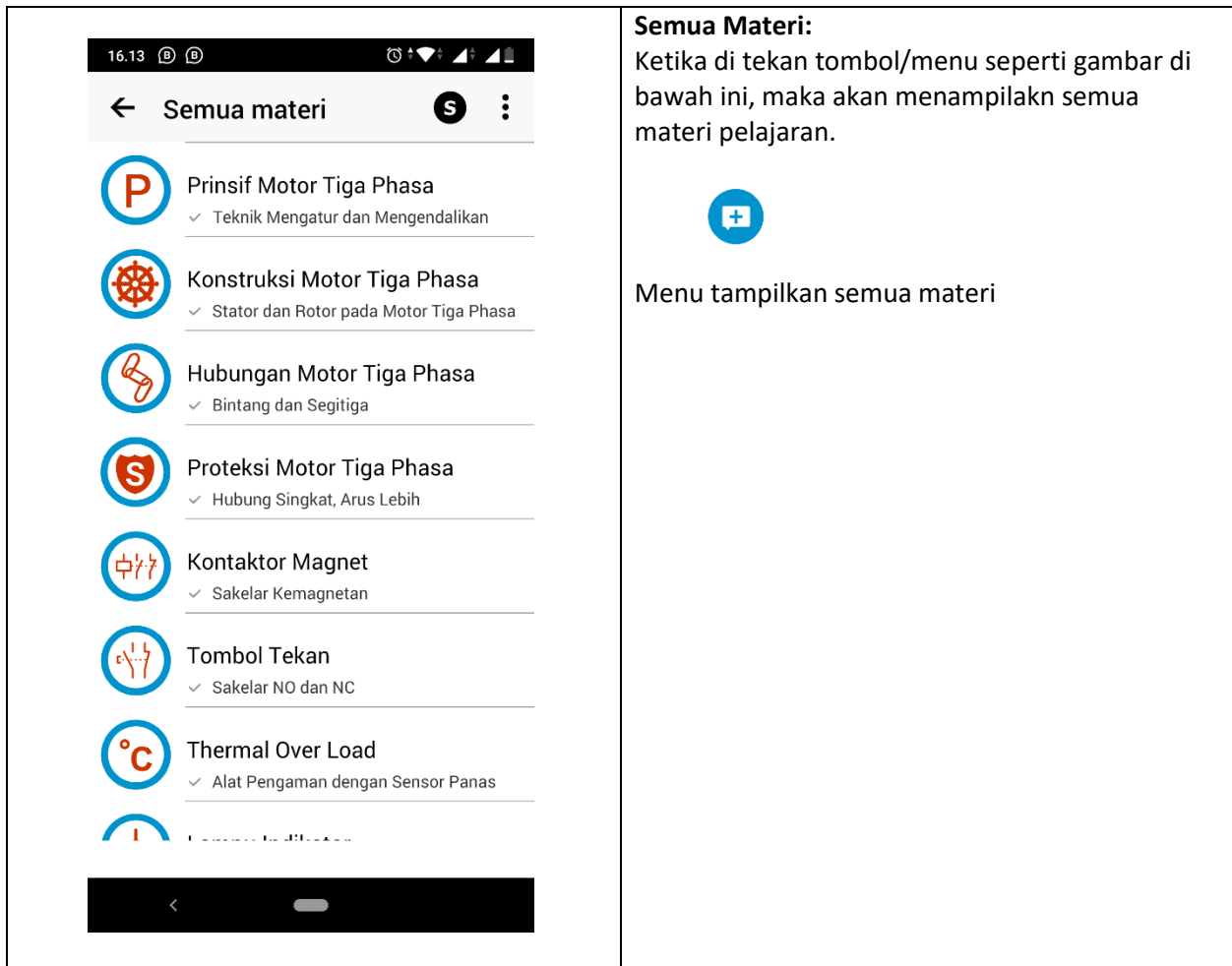
1	2	3	4	5	6	7	8	9	10
✓	✓	✓	✓	✗	✓	✓	✓	✗	✗

Anda tidak lulus, ayo belajar lebih giat lagi!

Ulangi Tes

**Hasil Soal Latihan :**

Menampilkan nilai hasil latihan soal yang disusun secara random dan menu ulangi untuk kembali mencoba mendapatkan nilai terbaik.



## B. Listing Program

```

stop();
komentar.text = "Teori Dasar";

stage.align = StageAlign.prototype; // Fullscreen dengan + status bar
import flash.system.fscommand;
import flash.desktop.NativeApplication;
import flash.ui.Keyboard;
import flash.events.KeyboardEvent;

var all_ok:int;
var status_tombol:int;
var autom:autombol = new autombol();
var S_tom:LaguT1 = new LaguT1();
var S_time:LaguT2 = new LaguT2();
function So_tom(event:MouseEvent):void
{
    //S_tom.play();
}

// 3 Keyboard HP
NativeApplication.nativeApplication.addEventListener(KeyboardEvent.KEY_DOWN, Keypress_teor, false, 0, true);
function Keypress_teor(event:KeyboardEvent):void
{
    switch (event.keyCode)
    {
        case Keyboard.MENU :
            event.preventDefault();
            if (kanan_menu == 0) {
                //
                menu_bawah.visible = true;
                tb_trans_right.visible = true;
            }
    }
}

```



```

        stop();
    }
    break;
case Keyboard.BACK :
    event.preventDefault();

    if (status_tombol ==1) {
        //
        swife_aktif=0;
        currentGalleryItem = 1;
        gotoAndStop(1,"INTI");
        gallery_items.x = 0;           // slide 1
        gallery_items.y = 145;
        blue_line.visible = true ;

        nCountX = alokasiwaktuX;
        blue_line.gotoAndStop(6);
        stop();
    }
    if (status_tombol ==2) {
        //
        swife_aktif=0;
        currentGalleryItem = 2;
        gotoAndStop(2,"INTI");
        gallery_items.x = -480;       // slide 2
        gallery_items.y = 145;
        blue_line.visible = true ;
        nCountX = alokasiwaktuX;
        blue_line.gotoAndStop(10);
        stop();
    }
    /*
    if (status_tombol ==3) {
        //
        swife_aktif=0;
        currentGalleryItem = 3;
        gotoAndStop(3,"INTI");
        gallery_items.x = -960;       // slide 3
        gallery_items.y = 145;
        blue_line.visible = true;
        nCountX = alokasiwaktuX;
        blue_line.gotoAndStop(32);
        stop();
    }
    */
    break;
case Keyboard.SEARCH :
    event.preventDefault();
    //gotoAndStop(1,"menu2");
    break;
}
}

//-----
// Menu Kiri
menu_kiri.visible = false;
tb_kiri.visible = false;
tb_transparan.visible = false;
var kanan_menu:int;

tb_menu.addEventListener(MouseEvent.CLICK,click_menu);
function click_menu(event:MouseEvent):void
{
    kanan_menu = 1;
    menu_kiri.visible = true;
    tb_transparan.visible = true;
}

```

```

        menu_kiri.gotoAndPlay(0);
        tb_transparan.gotoAndPlay(0);
        tb_kiri.visible = true;
        tb_kiri.gotoAndPlay(0);
        offset = 0;
        swife_aktif=1;
    }

    tb_transparan.addEventListener(MouseEvent.CLICK,back_menu);
    function back_menu(event:MouseEvent):void
    {
        //
        kanan_menu = 0;
        menu_kiri.visible = true ;
        tb_transparan.visible = true ;
        menu_kiri.gotoAndPlay(11);
        tb_transparan.gotoAndPlay(11);
        tb_kiri.visible = true;
        tb_kiri.gotoAndPlay(11);
        offset = 0;
        swife_aktif=0;
    }
    //-----
    // Menu Kanan
    menu_kanan.visible = false;
    tb_trans_right.visible = false;
    menu_bawah.visible = false;

    tb_right.addEventListener(MouseEvent.CLICK,right_menu);
    function right_menu(event:MouseEvent):void
    {

        kanan_menu = 1;
        menu_kanan.visible = true;
        tb_trans_right.visible = true;
        offset = 0;
        swife_aktif=1;
    }

    tb_trans_right.addEventListener(MouseEvent.CLICK,right_trans);
    function right_trans(event:MouseEvent):void
    {
        //
        kanan_menu = 0;
        menu_bawah.visible = false;
        menu_kanan.visible = false;
        tb_trans_right.visible = false;
        offset = 0;
        swife_aktif=0;
    }

    //-----
    //SOAL
    soal_latihan.addEventListener(MouseEvent.CLICK,t_soal);
    function t_soal(event:MouseEvent):void
    {

        status_tombol = 1;
        swife_aktif=0;
        gotoAndStop(1,"SOAL");
    }

    //-----
    // ISI Menu KANAN
    menu_kanan.Exit.addEventListener(MouseEvent.CLICK,metu);
    function metu(event:MouseEvent):void

```

```

{
    //fscommand("quit"); // untuk PC

    swife_aktif=0;
    NativeApplication.nativeApplication.exit(0);
}

// MENU KANAN
menu_kanan.Petu.addEventListener(MouseEvent.CLICK,petu);
function petu(event:MouseEvent):void
{
    gotoAndStop(6,"INTI");          //(1,"PETUNJUK");
    swife_aktif=0;
    blue_mov.gotoAndPlay(12);
}

menu_kanan.Prof.addEventListener(MouseEvent.CLICK,prof);
function prof(event:MouseEvent):void
{
    gotoAndStop(5,"INTI");          //(1,"PROFIL");
    swife_aktif=0;
    blue_mov.gotoAndPlay(17);
}

// ISI Menu BAWAH
menu_bawah.Exit.addEventListener(MouseEvent.CLICK,metu);
menu_bawah.Petu.addEventListener(MouseEvent.CLICK,petu);
menu_bawah.Prof.addEventListener(MouseEvent.CLICK,prof);
//-----
// Swife
var currentGalleryItem:Number = 1;
var totalGalleryItems:Number = 2;
var slideCounter:Number = 0;

var currentGalleryItem2:Number = 1;
var totalGalleryItems2:Number = 7;
var slideCounter2:Number = 0;
var offset:int;
var swife_aktif:int;

Multitouch.inputMode = MultitouchInputMode.GESTURE;
stage.addEventListener (TransformGestureEvent.GESTURE_SWIPE, SwipeINTI);

function SwipeINTI(event:TransformGestureEvent):void
{
    if (swife_aktif==0) {
        if(event.offsetX == 1)
        {
            offset = 1;
            if(currentGalleryItem > 1){
                currentGalleryItem--;
                slideRight();
            }
        }
        else if(event.offsetX == -1)
        {
            offset = 2;
            if(currentGalleryItem < totalGalleryItems){
                currentGalleryItem++;
                slideLeft();
            }
        }
        else if ((status_tombol == 2) && ( currentGalleryItem == 2 ))
        {

```

```

        if(event.offsetY == 1)
        {
            offset = 1;
            if(currentGalleryItem2 > 1){
                currentGalleryItem2--;
                //slideUp();
            }
        }
        else if(event.offsetY == -1)
        {
            offset = 2;
            if(currentGalleryItem2 < totalGalleryItems2){
                currentGalleryItem2++;
                //slideDown();
            }
        }
    }
    else if(event.offsetX == 0)
    {
        offset = 0;
    }
}
}

function slideLeft(){
    gallery_items.addEventListener("enterFrame", moveGalleryLeft);
}
function slideRight(){
    gallery_items.addEventListener("enterFrame", moveGalleryRight);
}

function moveGalleryLeft(evt:Event){
    gallery_items.x -= 48;
    slideCounter++;
    if(slideCounter >= 10){
        gallery_items.removeEventListener("enterFrame", moveGalleryLeft);
        slideCounter = 0;
        offset = 0;

        if (currentGalleryItem == 1) { gallery_items.x = 0; gallery_items.y = 145; status_tombol = 1;
gotoAndStop(1,"INT1"); blue_line.gotoAndPlay(2); }
        if (currentGalleryItem == 2) { gallery_items.x = -480; gallery_items.y = 145; status_tombol = 2;
gotoAndStop(2,"INT1"); blue_line.gotoAndPlay(7); } //currentGalleryItem2 = 1;
        nCountX = alokasiwaktuX;
    }
}

function moveGalleryRight(evt:Event){
    gallery_items.x += 48;
    slideCounter++;
    if(slideCounter >= 10){
        gallery_items.removeEventListener("enterFrame", moveGalleryRight);
        slideCounter = 0;
        offset = 0;

        if (currentGalleryItem == 1) { gallery_items.x = 0; gallery_items.y = 145; status_tombol = 1;
gotoAndStop(1,"INT1"); blue_line.gotoAndPlay(2);}
        if (currentGalleryItem == 2) { gallery_items.x = -480; gallery_items.y = 145; status_tombol = 2;
gotoAndStop(2,"INT1"); blue_line.gotoAndPlay(7); } //currentGalleryItem2 = 1;
        nCountX = alokasiwaktuX;
    }
}

/*
function slideDown(){
    gallery_items.addEventListener("enterFrame", moveGalleryDown);
}
function slideUp(){

```

```

        gallery_items.addEventListener("enterFrame", moveGalleryUp);
    }

function moveGalleryDown(evt:Event){
    gallery_items.y -= 94;
    slideCounter2++;
    if(slideCounter2 >= 5){
        gallery_items.removeEventListener("enterFrame", moveGalleryDown);
        slideCounter2 = 0;
        offset = 0;
    }
}

function moveGalleryUp(evt:Event){
    gallery_items.y += 94; //47 dan 10 = y=470
    slideCounter2++;
    if(slideCounter2 >= 5){
        gallery_items.removeEventListener("enterFrame", moveGalleryUp);
        slideCounter2 = 0;
        offset = 0;
    }
}
*/
//-----
// Tombol Menu utama
var TB_teo,TB_lat,TB_lat2,TB_sim,TB_sim2:int;
TB_teo =1;
TB_lat =0;
TB_sim =0;

//komen_ges.text = "T:"+TB_teo+"\n"+"S:"+TB_sim+"\n"+"L:"+TB_lat;

tb_teor.addEventListener(MouseEvent.CLICK,tom_teo);
tb_teo.addEventListener(MouseEvent.CLICK,tom_teo);
function tom_teo(event:MouseEvent):void
{
    all_ok = 0;
    blue_mov.gotoAndPlay(1);

    status_tombol = 1;
    currentGalleryItem = 1;
    gotoAndStop(1,"INT1");
    gallery_items.x = 0;           // slide 1
    gallery_items.y = 145;
    blue_line.visible = true ;
    blue_line.gotoAndPlay(2);
nCountX = alokasiwaktuX;
}
// komponen pakai sim
tb_sim.addEventListener(MouseEvent.CLICK,tom_sim);
function tom_sim(event:MouseEvent):void
{
    all_ok = 0;
    blue_mov.gotoAndPlay(1);

    currentGalleryItem = 2;
    status_tombol == 2;
    gotoAndStop(2,"INT1");
    gallery_items.x = -480;       // slide 2
    gallery_items.y = 145;
    blue_line.visible = true ;
    blue_line.gotoAndPlay(7);
    nCountX = alokasiwaktuX;
}

m_sim.addEventListener(MouseEvent.CLICK,tom_simu);

```



```

function tom_simu(event:MouseEvent):void
{
    all_ok = 0;
    gotoAndStop(3,"INTI");
    blue_mov.gotoAndPlay(3);
}

m_lat.addEventListener(MouseEvent.CLICK,tom_lat);
function tom_lat(event:MouseEvent):void
{
    all_ok = 0;
    offset = 0;
    jalan = 0;
    nCountX = 0;
    gotoAndStop(4,"INTI");
    blue_mov.gotoAndPlay(7);
}

m_prof.addEventListener(MouseEvent.CLICK,tom_prof);
function tom_prof(event:MouseEvent):void
{
    all_ok = 0;
    offset = 0;
    jalan = 0;
    nCountX = 0;
    gotoAndStop(5,"INTI");
    blue_mov.gotoAndPlay(17);
}

m_petu.addEventListener(MouseEvent.CLICK,tom_petu);
function tom_petu(event:MouseEvent):void
{
    all_ok = 0;

    offset = 0;
    jalan = 0;
    nCountX = 0;

    gotoAndStop(6,"INTI");
    blue_mov.gotoAndPlay(12);
}

tb_bulet.addEventListener(MouseEvent.CLICK,tb_All);
function tb_All(event:MouseEvent):void
{
    all_ok = 1;
    offset = 0;
    jalan = 0;
    nCountX = 0;
    gotoAndStop(7,"INTI");
}

// DESKRPSI
tb_kiri.Desk.addEventListener(MouseEvent.CLICK,tb_Desk);
function tb_Desk(event:MouseEvent):void
{
    if(offset == 0)
    {
        gotoAndStop(1,"DESKRIPSI");
        swife_aktif=0;
    }
}

tb_kiri.Tuju.addEventListener(MouseEvent.CLICK,tb_Tuju);
function tb_Tuju(event:MouseEvent):void

```

```

{
    if(offset == 0)
    {

        gotoAndStop(2,"DESKRIPSI");
        swife_aktif=0;
    }
}

tb_kiri.Mate.addEventListener(MouseEvent.CLICK,tb_Mate);
function tb_Mate(event:MouseEvent):void
{
    if(offset == 0)
    {

        gotoAndStop(3,"DESKRIPSI");
        swife_aktif=0;
    }
}

tb_kiri.Kata.addEventListener(MouseEvent.CLICK,tb_Kata);
function tb_Kata(event:MouseEvent):void
{
    if(offset == 0)
    {

        gotoAndStop(4,"DESKRIPSI");
        swife_aktif=0;
    }
}
//-----

// KOMPONEN
var hasil_TDR:Number, hasil_TDR2:Number;
var nCount_TDR:Number, nCount_TDR2:Number;
var S_TDR:int, S_TDR2:int;
var myTimer_TDR:Timer = new Timer(1000, nCount_TDR);
var myTimer_TDR2:Timer = new Timer(1000, nCount_TDR2);

function tb_kom_back(event:MouseEvent):void
{
    if (all_ok == 0)
    {
        status_tombol = 2;
        currentGalleryItem = 2;
        gotoAndStop(2,"INTI");
        gallery_items.x = -480;           // slide 2
        gallery_items.y = 145;
        blue_line.visible = true ;
        blue_line.gotoAndStop(10);
        blue_mov.gotoAndPlay(1);
    }

    if (all_ok == 1)
    {
        gotoAndStop(7,"INTI");
    }
}

// TEORI
function tb_teo_back(event:MouseEvent):void
{
    if (all_ok == 0)

```

```

    {
        status_tombol = 1;
        currentGalleryItem = 1;
        gotoAndStop(1,"INTI");
        gallery_items.x = 0;           // slide 1
        gallery_items.y = 145;
        blue_line.visible = true ;
        blue_line.gotoAndStop(5);
        SP_teo3.visible = false ;
        SP_teo4.visible = false ;
        blue_mov.gotoAndPlay(1);
    }

    if (all_ok == 1)
    {
        gotoAndStop(7,"INTI");
    }
}

//-----
var jalan,coun:int;
var nCountX:Number,alokasiwaktuX:int = 0.5;
var myTimerX:Timer = new Timer(1000,nCountX);

nCountX = alokasiwaktuX;
myTimerX.addEventListener(TimerEvent.TIMER, countdownX);
//myTimer.start();

function countdownX(e:TimerEvent):void
{
    nCountX--;
    //if (nCountX==0) { coun=0; }
}

gallery_items.addEventListener(MouseEvent.MOUSE_OVER,tb_Over);
function tb_Over(event:MouseEvent):void
{
    jalan=1;
    nCountX = alokasiwaktuX;
    myTimerX.stop();
    //coun = 1;
}

gallery_items.addEventListener(MouseEvent.MOUSE_DOWN,tb_Down);
function tb_Down(event:MouseEvent):void
{
    jalan=0;
    //nCountX = 0;
    myTimerX.start();
}

allmedia.Prin.addEventListener(MouseEvent.CLICK,tb_prin);
allmedia.Kons.addEventListener(MouseEvent.CLICK,tb_Kons);
allmedia.Hubu.addEventListener(MouseEvent.CLICK,tb_Hubu);
allmedia.Prot.addEventListener(MouseEvent.CLICK,tb_Prot);

gallery_items.Prin.addEventListener(MouseEvent.CLICK,tb_prin);
function tb_prin(event:MouseEvent):void
{
    myTimerX.start();
    if((offset == 0) && (jalan == 0) && (nCountX == 0))
    {
        status_tombol = 1;
        gotoAndStop(1,"TEORI");
    }
}

```

```

}

gallery_items.Kons.addEventListener(MouseEvent.CLICK,tb_Kons);
function tb_Kons(event:MouseEvent):void
{
    myTimerX.start();
    if((offset == 0) && (jalan == 0) && (nCountX == 0))
    {

        status_tombol = 1;
        gotoAndStop(2,"TEORI");
    }
}

gallery_items.Hubu.addEventListener(MouseEvent.CLICK,tb_Hubu);
function tb_Hubu(event:MouseEvent):void
{
    myTimerX.start();
    if((offset == 0) && (jalan == 0) && (nCountX == 0))
    {

        status_tombol = 1;
        gotoAndStop(3,"TEORI");
        SP_teo3.visible = true ;
    }
}

gallery_items.Prot.addEventListener(MouseEvent.CLICK,tb_Prot);
function tb_Prot(event:MouseEvent):void
{
    myTimerX.start();
    if((offset == 0) && (jalan == 0) && (nCountX == 0))
    {

        status_tombol = 1;
        gotoAndStop(4,"TEORI");
        SP_teo4.visible = true ;
    }
}

// KOMPONEN
allmedia.Kont.addEventListener(MouseEvent.CLICK,tb_Kont);
allmedia.Tomb.addEventListener(MouseEvent.CLICK,tb_Tomb);
allmedia.Ther.addEventListener(MouseEvent.CLICK,tb_Ther);
allmedia.Lamp.addEventListener(MouseEvent.CLICK,tb_Lamp);
allmedia.Rela.addEventListener(MouseEvent.CLICK,tb_Rela);
allmedia.Mini.addEventListener(MouseEvent.CLICK,tb_Mini);
allmedia.Sake.addEventListener(MouseEvent.CLICK,tb_Sake);

gallery_items.TEK.Kont.addEventListener(MouseEvent.CLICK,tb_Kont);
function tb_Kont(event:MouseEvent):void
{
    myTimerX.start();
    if((offset == 0) && (jalan == 0) && (nCountX == 0))
    {

        status_tombol = 2;
        gotoAndStop(1,"KOMPONEN");
    }
}

gallery_items.TEK.Tomb.addEventListener(MouseEvent.CLICK,tb_Tomb);
function tb_Tomb(event:MouseEvent):void
{
    myTimerX.start();

```

```

        if((offset == 0) && (jalan == 0) && (nCountX == 0))
        {

                status_tombol = 2;
                gotoAndStop(2,"KOMPONEN");
        }
}

gallery_items.TEK.Ther.addEventListener(MouseEvent.CLICK,tb_Ther);
function tb_Ther(event:MouseEvent):void
{
    myTimerX.start();
    if((offset == 0) && (jalan == 0) && (nCountX == 0))
    {

            status_tombol = 2;
            gotoAndStop(3,"KOMPONEN");
    }
}

gallery_items.TEK.Lamp.addEventListener(MouseEvent.CLICK,tb_Lamp);
function tb_Lamp(event:MouseEvent):void
{
    myTimerX.start();
    if((offset == 0) && (jalan == 0) && (nCountX == 0))
    {

            status_tombol = 2;
            gotoAndStop(4,"KOMPONEN");
    }
}

gallery_items.TEK.Rela.addEventListener(MouseEvent.CLICK,tb_Rela);
function tb_Rela(event:MouseEvent):void
{
    myTimerX.start();
    if(offset == 0) //&& (jalan == 0) && (nCountX == 0))
    {

            status_tombol = 2;
            gotoAndStop(5,"KOMPONEN");
    }
}

gallery_items.TEK.Mini.addEventListener(MouseEvent.CLICK,tb_Mini);
function tb_Mini(event:MouseEvent):void
{
    myTimerX.start();
    if((offset == 0) && (jalan == 0) && (nCountX == 0))
    {

            status_tombol = 2;
            gotoAndStop(6,"KOMPONEN");
    }
}

gallery_items.TEK.Sake.addEventListener(MouseEvent.CLICK,tb_Sake);
function tb_Sake(event:MouseEvent):void
{
    myTimerX.start();
    if((offset == 0) && (jalan == 0) && (nCountX == 0))
    {

            status_tombol = 2;
            gotoAndStop(7,"KOMPONEN");
    }
}

```



```

}

//-----

// SIMULASI
// variabel simulasi
var mcb_ok:int, mcb2_ok:int, S0_ok:int, S1_ok:int, Over:int;
var mcb0_RF:int, mcb2_RF:int, S0_RF:int, S1_RF:int, Over2:int,
    S2_RF:int, nekRF:int, bekRF:int, tor3:int, dataRF:int;
var mcb0_BR:int, S0_BR:int, S1_BR:int, S2_BR:int, dataBR:int,
    mcb2_BR:int, tor3BR:int, nekBR:int, bekBR:int, OverBR:int;
//var mcb_ok_tim:int, S0_ok_tim:int, S1_ok_tim:int, tim:int; off_tim:int;
//var mcb0_SD:int, mcb2_SD:int, S0_SD:int, S1_SD:int, Over_SD:int,
// nek_SD:int, bek_SD:int, tor3_SD:int, data_SD:int; //, timer_on_SD:int;
/*
    var myTimer_SD:Timer = new Timer(1000, nCount_SD); //nCount
    var myTimer_SD2:Timer = new Timer(1000, nCount_SD2); //nCount
    var hasil_SD:Number;
    var hasil2_SD:Number;
    var nCount_SD:Number;
    var nCount_SD2:Number;
    var tim_SD:int;
*/

// SIMULASI
allmedia.SDire.addEventListener(MouseEvent.CLICK, tb_SDire);
allmedia.SDua.addEventListener(MouseEvent.CLICK, tb_SDua);
allmedia.SBeru.addEventListener(MouseEvent.CLICK, tb_SBeru);
allmedia.SPenu.addEventListener(MouseEvent.CLICK, tb_SPenu);
allmedia.SBint.addEventListener(MouseEvent.CLICK, tb_SBint);
// SIMULASI
SDire.addEventListener(MouseEvent.CLICK, tb_SDire);
function tb_SDire(event:MouseEvent):void
{
    //if(offset == 0)
    //{

//        status_tombol = 2;
        gotoAndStop(1, "SIMULASI");
    //}
}

SDua.addEventListener(MouseEvent.CLICK, tb_SDua);
function tb_SDua(event:MouseEvent):void
{
    // if(offset == 0)
    //{

//        status_tombol = 2;
        gotoAndStop(2, "SIMULASI");
    //}
}

SBeru.addEventListener(MouseEvent.CLICK, tb_SBeru);
function tb_SBeru(event:MouseEvent):void
{
    //if(offset == 0)
    //{

//        status_tombol = 2;
        gotoAndStop(4, "SIMULASI");
    //}
}

SPenu.addEventListener(MouseEvent.CLICK, tb_SPenu);
function tb_SPenu(event:MouseEvent):void

```

```

{
    //if(offset == 0)
    //{

        //status_tombol = 2;
        gotoAndStop(6,"SIMULASI");
    //}
}

SBInt.addEventListener(MouseEvent.CLICK,tb_SBInt);
function tb_SBInt(event:MouseEvent):void
{
    //if(offset == 0)
    //{

        //status_tombol = 2;
        gotoAndStop(7,"SIMULASI");
    //}
}

function tb_sim_back(event:MouseEvent):void
{
    if (all_ok == 0)
    {
        gotoAndStop(3,"INTI");
        blue_mov.gotoAndPlay(5);
    }
    if (all_ok == 1)
    {
        gotoAndStop(7,"INTI");
    }
}

function kliknext(event:MouseEvent):void
{
    nextFrame();
}

function klikback(event:MouseEvent):void
{
    prevFrame();
}

//-----

// LATIHAN
function tb_lat_back(event:MouseEvent):void
{
    //status_tombol = 3;
    //currentGalleryItem = 3;
    if (all_ok == 0)
    {
        gotoAndStop(4,"INTI"); // LATIHAN
        blue_mov.gotoAndPlay(35);
    }
    if (all_ok == 1)
    {
        gotoAndStop(7,"INTI");
    }
}
}

```

```

// LATIHAN
allmedia.LDire.addEventListener(MouseEvent.CLICK,tb_LDire);
allmedia.LDua.addEventListener(MouseEvent.CLICK,tb_LDua);
allmedia.LBeru.addEventListener(MouseEvent.CLICK,tb_LBeru);
allmedia.LPenu.addEventListener(MouseEvent.CLICK,tb_LPenu);
allmedia.LBint.addEventListener(MouseEvent.CLICK,tb_LBint);
//-----

LDire.addEventListener(MouseEvent.CLICK,tb_LDire);
function tb_LDire(event:MouseEvent):void
{
    //myTimerX.start();
    //if((offset == 0) && (jalan == 0) && (nCountX == 0))
    //if(offset == 0)
    //{

        status_tombol = 3;
        gotoAndStop(1,"LATIHAN");
        SP_lat1.visible = true;

    //}
}

LDua.addEventListener(MouseEvent.CLICK,tb_LDua);
function tb_LDua(event:MouseEvent):void
{
    status_tombol = 3;
    gotoAndStop(2,"LATIHAN");
    SP_lat2.visible = true;
}

LBeru.addEventListener(MouseEvent.CLICK,tb_LBeru);
function tb_LBeru(event:MouseEvent):void
{
    status_tombol = 3;
    gotoAndStop(3,"LATIHAN");
    SP_lat3.visible = true;
}

LPenu.addEventListener(MouseEvent.CLICK,tb_LPenu);
function tb_LPenu(event:MouseEvent):void
{
    status_tombol = 3;
    gotoAndStop(4,"LATIHAN");
    SP_lat4.visible = true;
}

LBint.addEventListener(MouseEvent.CLICK,tb_LBint);
function tb_LBint(event:MouseEvent):void
{
    status_tombol = 3;
    gotoAndStop(5,"LATIHAN");
    SP_lat5.visible = true;
}

//=====
//AS deklarasi variable dan deklarasi fungsi dalam scene tes.
var kunci:String, jawaban:String, dikunci:String,
macamnya:int, tampilnya:int, adarespon:Boolean,
adapenyelesaian:Boolean, dirandom:Boolean,
soal:int = 1, betul:int = 0,
salah:int = 0, nilai:int = 0,
macamarray:Array = new Array(),
cocokarray:Array = new Array(),
mcrecrespon = new mcrecrespon();
mcrecrespon.x = 320;
mcrecrespon.y = 100;

```

```

mcre.scaleX = 2,8;
mcre.scaleY = 2,8;
// Soal Teori
function copot()
{
    removeChild(mcre);
}
function klika(event:MouseEvent):void
{

    jawaban = "a";
    cocokan();
}
function klikb(event:MouseEvent):void
{

    jawaban = "b";
    cocokan();
}
function klikc(event:MouseEvent):void
{

    jawaban = "c";
    cocokan();
}
function klikd(event:MouseEvent):void
{

    jawaban = "d";
    cocokan();
}
function clike(event:MouseEvent):void
{

    jawaban = "e";
    cocokan();
}
// -----
function cocokan()
{
    addChild(mcre);
    if (jawaban == kunci)
    {
        betul += 1;
        cocokarray[soal - 1] = 1;
        if (adarespon)
        {
            mcre.gotoAndPlay(2);
        }
        dikunci = "BENAR, yaitu " + kunci + ".";
    }
    else
    {
        salah += 1;
        cocokarray[soal - 1] = 0;
        if (adarespon)
        {
            mcre.gotoAndPlay(16);
        }
        dikunci = "SALAH, yang benar " + kunci + ".";
    }
    soal += 1;
    if (adapenyelesaian)
    {
        if (adarespon)
        {

```

```

        setTimeout(nextFrame,1000);
        setTimeout(copot,1000);
    }
    else
    {
        nextFrame();
        copot();
    }
}
else
{
    if (adarespon)
    {
        setTimeout(dilanjut,1000);
        setTimeout(copot,1000);
    }
    else
    {
        dilanjut();
        copot();
    }
}
}
function kliklanjut(event:MouseEvent):void
{
    dilanjut();
}
function dilanjut()
{
    if (soal<tampilnya+1)
    {
        gotoAndStop(2*macamarray[soal-1]);
    }
    else
    {
        gotoAndStop("resume");
    }
}
function klikulang(event:MouseEvent):void
{
    soal = 1;
    betul = 0;
    salah = 0;
    nilai = 0;
    gotoAndStop(1);
}
function kuncinya(sikunci:String)
{
    soalnya.text = "Soal no " + soal.toString();
    pila.addEventListener(MouseEvent.CLICK,clika);
    pilb.addEventListener(MouseEvent.CLICK,clikb);
    pilc.addEventListener(MouseEvent.CLICK,clikc);
    pild.addEventListener(MouseEvent.CLICK,clikd);
    pile.addEventListener(MouseEvent.CLICK,clike);
    kunci = sikunci;
}
function dipenyel()
{
    sikunci.text = "Jawaban anda " + dikunci;
    tblanjut.addEventListener(MouseEvent.CLICK,kliklanjut);
}
function diawalquis()
{
    tbmulai.addEventListener(MouseEvent.CLICK,kliklanjut);
}

```



```

// tbmenu.addEventListener(MouseEvent.CLICK,clikmenu);
// tbmetu.addEventListener(MouseEvent.CLICK,clikmetu);
for (var i:int=1; i<=macamnya; i++)
{
    macamarray[i - 1] = i;
}
function randomize( a : *, b : * ):int
{
    return ( Math.random() > .5 ) ? 1 : -1;
}
if (dirandom)
{
    macamarray = macamarray.sort(randomize);
}
}
//Komentar
function diresumequis(batasbagus:int,komen1:String,komen2:String,komen3:String)
{
    stop();
    tbulang.addEventListener(MouseEvent.CLICK,clikulang);
    betulnya.text = "Benar = " + betul.toString();
    salahnya.text = "Salah = " + salah.toString();
    nilai = betul/tampilnya * 100;
    nilainya.text = "Nilai = " + nilai.toString();

    for (var a:int=1; a<=tampilnya; a++)
    {
        if (cocokarray[a - 1] > 0)
        {
            this["res" + a].gotoAndStop(3);
        }
        else
        {
            this["res" + a].gotoAndStop(2);
        }
    }

    if (nilai == 100)
    {
        komentar.text = komen1;
    }
    else
    {
        if (nilai>=batasbagus)
        {
            komentar.text = komen2;
        }
        else
        {
            komentar.text = komen3;
        }
    }
}
}

//=====

```