APPENDICES
Appendices

Appendix -I

Specimens of frames used in Interactive Materials used in M-LMS

Interactive Material (LENS) Login

Interactive Material (LENS) – welcome frame
Interactive Material (LENS) – Interactive Learning Frame

Here the Object is Beyond '2F'.

* To see the Image Press "View" Button.

Here the Object is Beyond '2F'.

* To see the Image Press "View" Button.

* Now You can see the Image (M) on the figure.


Properties:
1. The Image will be Real and Inverted.
2. Image will be in the Opposite Side.
3. Image will be Smaller than the Object.
4. Image will be Between 'F' and '2F'.

Object: O
Image: I
Center of Curvature: C
Interactive Material (LENS) – Evaluation Frame after unsuccessful completion

Interactive Material (LENS) – Evaluation Frame after successful completion
Interactive Material (LENS) – Evaluation Frame after Topic completion

Specimens of External link Pages used in M-LMS
Specimen of Discussion initiation window

Quiz Start up Window
Appendices vi

Appendix II

Specimens of frames included in interactive materials collected for M-LMS

Frame 1

Frame 2
Appendices xi

Frame 11

Frame 12
Appendices xv

Frame 19

Frame 20
Appendices xix

Frame 27

Frame 28
Appendices

Appendix III

The PHP code used for the development of Teacher Controlled Entry Form (TCE)

File name: attendance.php

```php
<?php
session_start("usr");
require_once('connect.php');
if ($_SESSION['name']==1)
{

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
<title>Teacher Controlled Entry-form</title>
<style type="text/css">
    body {
        background-color: #FFFFCC;
    }
    .style4 {
        font-size: 18px;
        font-weight: bold;
    }
    .style7 {
        color: #FFFF00;
        font-size: 14px;
    }
    .style11 {
        font-size: 20px;
        color: #000000;
    }
    .style12 {
        color: #FFFFFF;
    }
    .style13 {
        color: #000000;
    }
    .style14 {
        color: #FF0000;
        font-weight: bold;
    }
    .style16 {
        font-size: 12px;
    }
</style>
<body { background-color: #FFFFCC; }
```

File name: attendance.php

```php
function attendance() {
    // Code for handling attendance
}
```

### Moodle based Learning Management System

#### Teacher Controlled Entry-form

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Enter no. of days absent / month*

<p><a href="logout.php">Log out</a>! <a href="home.php">Home</a>! </p>
```php
<?php
$i=1;
$qr=mysql_query("select id,firstname,c37,c38,c39,c40,c41,c42,c43,c44,c45,c46 from mlms_register");
while($end=mysql_fetch_array($qr))
{
    //echo $end['id'];
    //echo $end['firstname'];
    //echo $end['qualification'];
    //echo $end['post'];
    //echo $end['school'];
    //echo "<br/>";
    ?>
    <table width="597" border="0">
        <tr bgcolor="#ECE9D8">
            <td width="19" bgcolor="#CCCCCC">\<div align="left">\<span class="style22">\<span class="style23">\<span class=" style22"><?php echo $i; ?>\</span>\</span>\</span></div></td>
            <td width="188" bgcolor="#CCCCCC">\<div align="left">\<span class="style22"><?php echo $end['firstname']; ?>\</span>\</div></td>
            <td width="34" bgcolor="#CCCCCC">\<input name="t11<?php echo $i; ?>" type="text" value="<?php echo $end['c37']; ?>" size="1">\</td>
            <td width="34" bgcolor="#CCCCCC">\<input name="t12<?php echo $i; ?>" type="text" value="<?php echo $end['c38']; ?>" size="1">\</td>
            <td width="34" bgcolor="#CCCCCC">\<input name="t13<?php echo $i; ?>" type="text" value="<?php echo $end['c39']; ?>" size="1">\</td>
            <td width="34" bgcolor="#CCCCCC">\<input name="t14<?php echo $i; ?>" type="text" value="<?php echo $end['c40']; ?>" size="1">\</td>
            <td width="34" bgcolor="#CCCCCC">\<input name="t15<?php echo $i; ?>" type="text" value="<?php echo $end['c41']; ?>" size="1">\</td>
            <td width="34" bgcolor="#CCCCCC">\<input name="t16<?php echo $i; ?>" type="text" value="<?php echo $end['c42']; ?>" size="1">\</td>
            <td width="34" bgcolor="#CCCCCC">\<input name="t17<?php echo $i; ?>" type="text" value="<?php echo $end['c43']; ?>" size="1">\</td>
            <td width="34" bgcolor="#CCCCCC">\<input name="t18<?php echo $i; ?>" type="text" value="<?php echo $end['c44']; ?>" size="1">\</td>
            <td width="34" bgcolor="#CCCCCC">\<input name="t19<?php echo $i; ?>" type="text" value="<?php echo $end['c45']; ?>" size="1">\</td>
            <td width="34" bgcolor="#CCCCCC">\<input name="t20<?php echo $i; ?>" type="text" value="<?php echo $end['c46']; ?>" size="1">\</td>
        </tr>
    </table>
    ?>
```
Appendices

File name: attendance.php

```php
<?php
$i++;
?>

<p align="left">&nbsp;</p>
<div align="center">
<table width="299" border="0">
<tr>
<td width="197" bgcolor="#FFFFCC">&nbsp ;            </td>
<td width="170" bgcolor="#FFFFCC">&nbsp;</td>
</tr>
</table>
</div>
<p align="center">&nbsp;</p>
<input name="i" type="hidden" id="hbr" value="<?php echo $i; ?>">
</form>
<p align="left">&nbsp; </p>
<script>
function fun1()
{
    // Language I
    if (isNaN(document.form1.t1.value)==true)
    {
        alert("Entry to Language I Must be a NUMBER.");
    }
    else if (document.form1.t1.value=="")
    {
        alert("Enter No. of Students to Language 1.");
    }
    else if (Number(document.form1.t1.value) > Number(document.form1.t11.value))
    {
        alert("No of students entered to Language I Must be Below Total students.");
    }
```
```php
// Language II
else if (isNaN(document.form1.t2.value)==true)
{
    alert("Entry to Language II Must be a NUMBER.");
}
else if (document.form1.t2.value=="")
{
    alert("Enter No. of Students to Language II.");
}
else if (Number(document.form1.t2.value) > Number(document.form1.t11.value))
{
    alert("No of students entered to Language II Must be Below Total students.");
}

// English
else if (isNaN(document.form1.t3.value)==true)
{
    alert("Entry to English Must be a NUMBER.");
}
else if (document.form1.t3.value=="")
{
    alert("Enter No. of Students to English.");
}
else if (Number(document.form1.t3.value) > Number(document.form1.t11.value))
{
    alert("No of students entered to English Must be Below Total students.");
}

// Hindi
else if (isNaN(document.form1.t4.value)==true)
{
    alert("Entry to Hindi Must be a NUMBER.");
}
else if (document.form1.t4.value=="")
{
    alert("Enter No. of Students to Hindi.");
}
else if (Number(document.form1.t4.value) > Number(document.form1.t11.value))
{
    alert("No of students entered to Hindi Must be Below Total students.");
}

// Social
else if (isNaN(document.form1.t5.value)==true)
{
```
<table>
<thead>
<tr>
<th>File name: attendance.php</th>
</tr>
</thead>
<tbody>
<tr>
<td>alert(&quot;Entry to Social  Must be a NUMBER.&quot;);</td>
</tr>
<tr>
<td>}</td>
</tr>
<tr>
<td>else if (document.form1.t5.value==&quot;&quot;)</td>
</tr>
<tr>
<td>{</td>
</tr>
<tr>
<td>alert(&quot;Enter No. of Students to Social.&quot;);</td>
</tr>
<tr>
<td>}</td>
</tr>
<tr>
<td>else if (Number(document.form1.t5.value) &gt; Number(document.form1.t11.value))</td>
</tr>
<tr>
<td>{</td>
</tr>
<tr>
<td>alert(&quot;No of students entered to Social  Must be Below Total students.&quot;);</td>
</tr>
<tr>
<td>}</td>
</tr>
</tbody>
</table>

// Physics
else if (isNaN(document.form1.t6.value)==true) |
{ |
alert("Entry to Physics Must be a NUMBER."); |
} |
else if (document.form1.t6.value=="") |
{ |
alert("Enter No. of Students to Physics."); |
} |
else if (Number(document.form1.t6.value) > Number(document.form1.t11.value)) |
{ |
alert("No of students entered to Physics Must be Below Total students."); |
} |

// Chemistry
else if (isNaN(document.form1.t7.value)==true) |
{ |
alert("Entry to Chemistry Must be a NUMBER."); |
} |
else if (document.form1.t7.value=="") |
{ |
alert("Enter No. of Students to Chemistry."); |
} |
else if (Number(document.form1.t7.value) > Number(document.form1.t11.value)) |
{ |
alert("No of students entered to Chemistry Must be Below Total students."); |
} |

// Biology
else if (isNaN(document.form1.t8.value)==true) |
{ |
alert("Entry to Biology Must be a NUMBER."); |
} |
else if (document.form1.t8.value=="") |
{ |
```php
// File name: attendance.php

alert("Enter No. of Students to Biology.");

} else if (Number(document.form1.t8.value) > Number(document.form1.t11.value))
{
    alert("No of students entered to Biology Must be Below Total students.");
}

// Maths
else if (isNaN(document.form1.t9.value)==true)
{
    alert("Entry to Maths Must be a NUMBER.");
}
else if (document.form1.t9.value=="")
{
    alert("Enter No. of Students to Maths.");
}
else if (Number(document.form1.t9.value) > Number(document.form1.t11.value))
{
    alert("No of students entered to Maths Must be Below Total students.");
}

// IT
else if (isNaN(document.form1.t10.value)==true)
{
    alert("Entry to IT Must be a NUMBER.");
}
else if (document.form1.t10.value=="")
{
    alert("Enter No. of Students to IT.");
}
else if (Number(document.form1.t10.value) > Number(document.form1.t11.value))
{
    alert("No of students entered to IT Must be Below Total students.");
}

// Not Eligible
else if (isNaN(document.form1.t12.value)==true)
{
    alert("Entry to Not Eligible Must be a NUMBER.");
}
else if (document.form1.t12.value=="")
{
    alert("Enter No. of Students to Not Eligible.");
}
else if (Number(document.form1.t12.value) > Number(document.form1.t11.value))
{
    alert("No of students entered to Not Eligible Must be Below Total students.");
}
```
**File name: attendance.php**

```php
alert("No of students entered to Not Eligible Must be Below Total students.");
}

//Strength

else if (isNaN(document.form1.t11.value)==true)
{
    alert("Entry to Strenght Must be a NUMBER.");
}
else
{
    document.form1.submit();
}

/* if (isNaN(document.form1.text1.value)==true)
{
    alert("Entry to User name must be code.");
}
else if (document.form1.text2.value=="")
{
    alert("Enter Password");
}
else
{
    document.form1.submit();
} */
</script>

</html>

<?php

</?php

}

?>
### File name: attendance_submit.php

```php
<?php
session_start("usr");
require_once('connect.php');

if ($_SESSION['name']==1)
{
?

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
<title>M-LMS</title>
<?php require_once('common.php'); ?>
<style type="text/css">
  <!--
    .style12 {color: #FFFFFF}
    .style16 { font-size: 12px;
    color: #FFFFFF;  
    }
    .style21 {color: #FFFFFF; font-size: 12px; font-weight: bold; }
    .style25 {font-size: 12px; color: #FFFF00; }
    .style26 {color: #FF0000}
  -->
</style>
</head>
<body>
<?php
$count=trim($_POST['i']);

for($i=1; $i<$count; $i++)
{
Sn[$i]=trim($_POST['n'.$i]);
Sc11[$i]=trim($_POST['t11'.$i]);
Sc12[$i]=trim($_POST['t12'.$i]);
Sc13[$i]=trim($_POST['t13'.$i]);
Sc14[$i]=trim($_POST['t14'.$i]);
Sc15[$i]=trim($_POST['t15'.$i]);
Sc16[$i]=trim($_POST['t16'.$i]);
Sc17[$i]=trim($_POST['t17'.$i]);
Sc18[$i]=trim($_POST['t18'.$i]);

```
Appendices

File name : attendance_submit.php

$c19[$i]=trim($_POST['t19'.$i]);
c20[$i]=trim($_POST['t20'.$i]);

$editquery=mysql_query("update mlms_register set c37=".$c11[$i].", c38=".$c12[$i].", c39=".$c13[$i].", c40=".$c14[$i].", c41=".$c15[$i].", c42=".$c16[$i].", c43=".$c17[$i].", c44=".$c18[$i].", c45=".$c19[$i].", c46=".$c20[$i]." where firstname='$n[$i]'");

} if ($editquery!=0) {
  ?>
    <div align="center">
      <h3><span class="style26">Attendanc Details </span> Successfully UPDATED...</h3>
    </div>
  <?php
} else {
  ?>
    <div align="center">
      <h3>Details NOT UPLOADED...</h3>
    </div>
  <?php
}

<div align="center"><p><span class="style13"><a href="logout.php">Logout</a> !</span><a href="home.php">Home</a> !</p></div>
<table width="597" border="0">
  <tr bgcolor="#666666">
    <td width="19"><div align="center" class="style4 style7 style12">No</div></td>
    <td width="188"><div align="center"><span class="style12"><strong>Name</strong></div></td>
    <td width="34"><span class="style25"><strong>June</strong></span></td>
    <td width="34"><span class="style16"><strong>July</strong></span></td>
    <td width="34"><span class="style25"><strong>Aug</strong></span></td>
    <td width="34"><span class="style16"><strong>Sept</strong></span></td>
    <td width="34"><span class="style25"><strong>Oct</strong></span></td>
  </tr>
</table>
```php
<?php
$i=1;
$qr=mysql_query("select id,firstname,c37,c38,c39,c40,c41,c42,c43,c44,c45,c46 from mlms_register");
while($end=mysql_fetch_array($qr))
{
    //echo $end['id'];
    //echo $end['firstname'];
    //echo $end['qualification'];
    //echo $end['post'];
    //echo $end['school'];
    //echo "<br/>";
    ?>
    <table width="597" border="0">
        <tr bgcolor="#ECE9D8">
            <td width="19" bgcolor="#CCCCCC">\n                \n                    <div align="left">
                        <span class="style22" style="color:#FF0000" style="font-weight: bold">
                            $i;
                        </span>
                    </div>
            </td>
            <td width="188" bgcolor="#CCCCCC">\n                \n                    <span class="style22" style="color:#FF0000" style="font-weight: bold">
                        $end['firstname'];
                    </span>
            </td>
            <td width="34" bgcolor="#CCCCCC">\n                \n                    <span class="style22" style="color:#FF0000" style="font-weight: bold">
                        $end['c37'];
                    </span>
            </td>
            <td width="34" bgcolor="#CCCCCC">\n                \n                    <span class="style22" style="color:#FF0000" style="font-weight: bold">
                        $end['c38'];
                    </span>
            </td>
            <td width="34" bgcolor="#CCCCCC">\n                \n                    <span class="style22" style="color:#FF0000" style="font-weight: bold">
                        $end['c39'];
                    </span>
            </td>
            <td width="34" bgcolor="#CCCCCC">\n                \n                    <span class="style22" style="color:#FF0000" style="font-weight: bold">
                        $end['c40'];
                    </span>
            </td>
            <td width="34" bgcolor="#CCCCCC">\n                \n                    <span class="style22" style="color:#FF0000" style="font-weight: bold">
                        $end['c41'];
                    </span>
            </td>
            <td width="34" bgcolor="#CCCCCC">\n                \n                    <span class="style22" style="color:#FF0000" style="font-weight: bold">
                        $end['c42'];
                    </span>
            </td>
            <td width="34" bgcolor="#CCCCCC">\n                \n                    <span class="style22" style="color:#FF0000" style="font-weight: bold">
                        $end['c43'];
                    </span>
            </td>
            <td width="34" bgcolor="#CCCCCC">\n                \n                    <span class="style22" style="color:#FF0000" style="font-weight: bold">
                        $end['c44'];
                    </span>
            </td>
            <td width="34" bgcolor="#CCCCCC">\n                \n                    <span class="style22" style="color:#FF0000" style="font-weight: bold">
                        $end['c45'];
                    </span>
            </td>
            <td width="34" bgcolor="#CCCCCC">\n                \n                    <span class="style22" style="color:#FF0000" style="font-weight: bold">
                        $end['c46'];
                    </span>
            </td>
        </tr>
    </table>
<?php
</?php
```
Appendices

<table>
<thead>
<tr>
<th>File name : attendance_submit.php</th>
</tr>
</thead>
<tbody>
<tr>
<td>$i++;</td>
</tr>
<tr>
<td>}</td>
</tr>
<tr>
<td>?&gt;</td>
</tr>
<tr>
<td>&lt;p align=&quot;center&quot;&gt;</td>
</tr>
<tr>
<td>&lt;input type=&quot;submit&quot; name=&quot;Submit&quot; value=&quot;Edit&quot;&gt;</td>
</tr>
<tr>
<td>&lt;/p&gt;</td>
</tr>
<tr>
<td>&lt;/div&gt;</td>
</tr>
<tr>
<td>&lt;/form&gt;</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>&lt;/body&gt;</td>
</tr>
<tr>
<td>&lt;/html&gt;</td>
</tr>
<tr>
<td>&lt;?php</td>
</tr>
<tr>
<td>}</td>
</tr>
</tbody>
</table>
| ?>
Appendices

**File name: connect.php**

```php
<?php

$db_host        = 'localhost';
$db_user        = 'root';
$db_pass        = '';
$db_database    = 'moodle';

/* End config */

$link = @mysql_connect($db_host,$db_user,$db_pass) or die('Unable to establish a DB connection');

mysql_set_charset('utf8');
mysql_select_db($db_database,$link);

?>```


<?php
session_start("usr");
if ($_SESSION['name'] == 1)
{
  ?
</html>
<head>
<style>
body{
    font-family: arial;
    background-color: #996600;
}
table{font-size:80%;background:black}
a{color:black;text-decoration: none;font:bold}
a:hover{color:#606060}
td.menu{background:lightblue}
table.menu
{
    font-size:100%;
    position:absolute;
    visibility:hidden;
}
.style1 {
    color: #0000CC;
    font-size: 12px;
}
.style3 {color: #FFFFFF}
.style4 {color: #000000}
.style5 {color: #990000}
.style6 {color: #000066}
</style>
<script type="text/javascript">
function showmenu(elmnt)
{
    document.getElementById(elmnt).style.visibility="visible";
}
function hidemenu(elmnt)
{
    document.getElementById(elmnt).style.visibility="hidden";
}
</script>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1"><title>M-LMS</title></head>
<body>
<h3 align="center"> Moodle based Learning Management System (M-LMS) </h3>
<p align="center">Teacher Controlled Entryform (TCE) Home</p>
<p align="right" class="style4">Logged as :<span class="style5"><?php echo $_SESSION['user'] ?>|</a>
</span><a href="http://localhost/moodle/"><span class="style6"> Back to Course</span></a> | Logout</p>
<table width="100%" onmouseout="hidemenu('tutorials')">
<tr bgcolor="#FF8080" onmouseover="showmenu('tutorials')">
<td height="17" bgcolor="#993300" class="menu" id="tutorials" width="120">
<p align="center">TCE Entry</p>
<table class="menu" id="tutorials" width="120">
<tr><td class="menu"><a href="mlms_select_stu.php">Individual Datasheet Entry</a></td></tr>
<tr><td class="menu"><a href="mlmsscoreentry.php">Subject Score Details</a></td></tr>
<tr><td class="menu"><a href="mlmsactivityscore_ipam.php">Activity Score Entry(ID)</a></td></tr>
<tr><td class="menu"><a href="mlmsactivityscore_gpam.php">Activity Score Entry(GP)</a></td></tr>
</table>
</td>
<td bgcolor="#993300" onmouseover="showmenu('scripting')" onmouseout="hidemenu('scripting')">
<p align="center">ResultEntry</p>
<table class="menu" id="scripting" width="120">
<tr><td class="menu style3"><a href="term1.php">Term 1</a></td></tr>
<tr><td class="menu style3"><a href="term2.php">Term 2</a></td></tr>
<tr><td class="menu style3"><a href="term3.php">Term 3</a></td></tr>
<tr><td class="menu style3"><a href="term4.php">Term 4</a></td></tr>
<tr><td class="menu style3"><a href="final.php">Final</a></td></tr>
</table>
</td>
<td bgcolor="#993300" onmouseover="showmenu('validation')" onmouseout="hidemenu('validation')">
<p align="center">
</p>
<table class="menu" id="validation" width="120">
<tr><td class="menu style3"></td></tr>
</table>
</td>
</tr>
</table>
</body>
File name: home.php

```php
<file>

<p align="left"><a href="home.php" class="style3">Reports</a><br />
</p>
</file>`
```php
session_start("usr");
if ($_SESSION['name']==1)
{

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
<title>Teacher Controlled Entry-form </title>
<style type="text/css">
body {
    background-color: #FFFFCC;
}
.style11 {
    font-size: 20px;
    color: #000000;
}
.style13 {
    color: #000000
}
.style14 {
    color: #FF0000;
    font-weight: bold;
    font-size: 16px;
}
.style16 {
    font-size: 10px
}
.style18 {
    font-size: 20px;
    color: #000000;
    font-weight: bold;
}
</style>
</head>
<body>
<div align="center">
<table width="671" border="0" bordercolor="#999999">
<tr bgcolor="#FFFFCC">
    <td width="311"><div align="left"></div>
    <div align="center" class="style11"></div></td>
</tr>
<tr bordercolor="#999999" bgcolor="#FFFFCC">
    <td bgcolor="#996600" class="style18"><div align="center"><span class="style13">Moodle based Learning Management System</span></div>
    <div align="center" class="style18">Teacher Controlled Entry-form</div>
</td>
</tr>
</table>
</div>
</body>
</html>
```
### File name: mlmsactivityentry.php

```html
<form name="form1" method="post" action="mlmsactivitiesubmit.php">
<table width="385" border="0">
  <tr bordercolor="#CCCCCC" bgcolor="#CCCCCC">
    <td><div align="left"><strong>Activity Name (<span class="style16">Below 30 characters</span>)</strong></div></td>
    <td>
      <input name="t1" type="text" id="t1" size="25">
    </td>
  </tr>
  <tr>
    <td><div align="left"><strong>Subject</strong></div></td>
    <td>
      <select name="s1" id="s1">
        <option>Language1</option>
        <option>English</option>
        <option>Hindi</option>
        <option selected>Physics</option>
        <option>Chemistry</option>
        <option>Biology</option>
        <option>SocialScience</option>
        <option>Mathematics</option>
        <option>ICT</option>
      </select>
    </td>
  </tr>
  <tr bordercolor="#CCCCCC" bgcolor="#CCCCCC">
    <td><div align="left"><strong>Class</strong></div></td>
    <td>
      <select name="s2" id="s2">
        <option>8</option>
      </select>
    </td>
  </tr>
</table>
</form>
```
File name: mlmsactivityentry.php

```php
<?php
// Language I
if (isNaN(document.form1.t1.value)==true)
{
    alert("Entry to Language I Must be a NUMBER.");
}
else if (document.form1.t1.value=="")
{
    alert("Enter No. of Students to Language 1.");
}
else if (Number(document.form1.t1.value) > Number(document.form1.t11.value))
{
    alert("No of students entered to Language I Must be Below Total students.");
}
?>
```

```html
<option selected>9</option>
<option>10</option>
</select>
</td></tr></table>

<div align="center">
<table width="299" border="0">
<tr>
<td width="197" bgcolor="#FFFFCC">&nbsp;</td>
<td width="170" bgcolor="#FFFFCC"><input type="submit" name="Submit" value="Submit"></td>
</tr>
</table>
</div>

<p align="center">&nbsp;</p>

<form>
<p align="left">&nbsp;</p>
</form>

<script>
function fun1()
{
    // Language I
    if (isNaN(document.form1.t1.value)==true)
    {
        alert("Entry to Language I Must be a NUMBER.");
    }
    else if (document.form1.t1.value=="")
    {
        alert("Enter No. of Students to Language 1.");
    }
    else if (Number(document.form1.t1.value) > Number(document.form1.t11.value))
    {
        alert("No of students entered to Language I Must be Below Total students.");
    }
}
```
File name: mlmsactivityentry.php

```javascript
} // Language II
else if (isNaN(document.form1.t2.value)==true)
{
    alert("Entry to Language II Must be a NUMBER.");
}
else if (document.form1.t2.value=="")
{
    alert("Enter No. of Students to Language II.");
}
else if (Number(document.form1.t2.value) >
Number(document.form1.t11.value))
{
    alert("No of students entered to Language II Must be Below Total students.");
}

// English
else if (isNaN(document.form1.t3.value)==true)
{
    alert("Entry to English Must be a NUMBER.");
}
else if (document.form1.t3.value=="")
{
    alert("Enter No. of Students to English.");
}
else if (Number(document.form1.t3.value) >
Number(document.form1.t11.value))
{
    alert("No of students entered to English Must be Below Total students.");
}

// Hindi
else if (isNaN(document.form1.t4.value)==true)
{
    alert("Entry to Hindi Must be a NUMBER.");
}
else if (document.form1.t4.value=="")
{
    alert("Enter No. of Students to Hindi.");
}
```
else if (Number(document.form1.t4.value) > Number(document.form1.t11.value))
{
    alert("No of students entered to Hindi Must be Below Total students.");
}

// Social
else if (isNaN(document.form1.t5.value)==true)
{
    alert("Entry to Social Must be a NUMBER.");
}
else if (document.form1.t5.value=="")
{
    alert("Enter No. of Students to Social.");
}
else if (Number(document.form1.t5.value) > Number(document.form1.t11.value))
{
    alert("No of students entered to Social Must be Below Total students.");
}

// Physics
else if (isNaN(document.form1.t6.value)==true)
{
    alert("Entry to Physics Must be a NUMBER.");
}
else if (document.form1.t6.value=="")
{
    alert("Enter No. of Students to Physics.");
}
else if (Number(document.form1.t6.value) > Number(document.form1.t11.value))
{
    alert("No of students entered to Physics Must be Below Total students.");
}

// Chemistry
else if (isNaN(document.form1.t7.value)==true)
{
    alert("Entry to Chemistry Must be a NUMBER.");
}
### File name: mlmsactivityentry.php

```javascript
else if (document.form1.t7.value=="")
{
    alert("Enter No. of Students to Chemistry.");
}
else if (Number(document.form1.t7.value) > Number(document.form1.t11.value))
{
    alert("No of students entered to Chemistry Must be Below Total students.");
}

// Biology
else if (isNaN(document.form1.t8.value)==true)
{
    alert("Entry to Biology Must be a NUMBER.");
}
else if (document.form1.t8.value=="")
{
    alert("Enter No. of Students to Biology.");
}
else if (Number(document.form1.t8.value) > Number(document.form1.t11.value))
{
    alert("No of students entered to Biology Must be Below Total students.");
}

// Maths
else if (isNaN(document.form1.t9.value)==true)
{
    alert("Entry to Maths Must be a NUMBER.");
}
else if (document.form1.t9.value=="")
{
    alert("Enter No. of Students to Maths.");
}
else if (Number(document.form1.t9.value) > Number(document.form1.t11.value))
{
    alert("No of students entered to Maths Must be Below Total students.");
}
```
// IT
else if (isNaN(document.form1.t10.value)==true)
{
    alert("Entry to IT Must be a NUMBER.");
}
else if (document.form1.t10.value=="")
{
    alert("Enter No. of Students to IT.");
}
else if (Number(document.form1.t10.value) >
Number(document.form1.t11.value))
{
    alert("No of students entered to IT Must be Below Total students.");
}

// Not Eligible
else if (isNaN(document.form1.t12.value)==true)
{
    alert("Entry to Not Eligible Must be a NUMBER.");
}
else if (document.form1.t12.value=="")
{
    alert("Enter No. of Students to Not Eligible.");
}
else if (Number(document.form1.t12.value) >
Number(document.form1.t11.value))
{
    alert("No of students entered to Not Eligible Must be Below Total
students.");
}

//Strength

else if (isNaN(document.form1.t11.value)==true)
{
    alert("Entry to Strenght Must be a NUMBER.");
}
else
```html
<!-- File name : mlmsactivityentry.php -->

```
<?php
session_start("usr");
if ($_SESSION['name']==1)
{
?
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
<title>M-LMS Activity Submission</title>
</head>

<body>
<?php
require_once('connect.php');

$act=$_POST['t1'];
$sub=$_POST['s1'];
$cls=$_POST['s2'];

$query = "select max(id) + 1 as qid from mlms_activities where subject='$sub';
$result1 = mysql_query($query);

if (!$result1)
{
    echo ("Could not query the database: <br>". mysql_error());
}

while ($result_row = mysql_fetch_row($result1))
{
    $qid = $result_row[0];
}

if ( $qid >1)
{
    $result=mysql_query( "insert into mlms_activities values (" . $qid . "," . $act . "," . $sub . "," . $cls . ")");
}
else
{
    $result=mysql_query( "insert into mlms_activities values (" . 1 . "," . $act . "," . $sub . "," . $cls . ")");
}
Appendices

File name: mlmsactivitysubmit

```php
if (!$result) {
    echo ('Process Failed because ' . mysql_error());
} else {
    ?></a>
    <div align="center"><strong>
<?php
    {echo ('Activity Added Successfully');}
    ?></strong></div>
    <?php
} ?>

</body>
</html>

<?php
```
### Appendix IV

**List of Teachers Participated in the M-LMS training and Module preparation workshop**

Date: 8/07/2013  
Venue: GVHSS Koppam

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mohammed Iqbal</td>
<td>HSA, GVHSS Koppam</td>
</tr>
<tr>
<td>2</td>
<td>Prakashan E</td>
<td>HSA, GHSS Pattambi</td>
</tr>
<tr>
<td>3</td>
<td>ManojKumar UP</td>
<td>HSA, GHSS Pattambi</td>
</tr>
<tr>
<td>4</td>
<td>Biju P</td>
<td>HSA, PHS Pallippuram</td>
</tr>
<tr>
<td>5</td>
<td>Manoj K</td>
<td>HSA, DKBMMHSS Thrithala</td>
</tr>
<tr>
<td>6</td>
<td>Mohammed Ali P</td>
<td>HSA, DKBMMHSS Thrithala</td>
</tr>
<tr>
<td>7</td>
<td>Prameela P</td>
<td>HSA, GVHSS Koppam</td>
</tr>
<tr>
<td>8</td>
<td>Shajimon KC</td>
<td>HSA, PHS Pallippuram</td>
</tr>
<tr>
<td>9</td>
<td>Pramod K</td>
<td>HSA, GJHSS Naduvattam</td>
</tr>
<tr>
<td>10</td>
<td>Shaheed Ali P</td>
<td>Lecturer (Educational Technology), DIET Anakkara, Palakkad</td>
</tr>
</tbody>
</table>
## Appendix V

### Unit plan

**Unit:** *Refraction of Light*

**Objectives:**

**Major Topic:** *Lenses*

### 1. Frame(s) Type: Content Frame [No of Frames: 5]

<table>
<thead>
<tr>
<th>Topic</th>
<th>Subtopic</th>
<th>Facts / Properties</th>
<th>Supporting Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Concave</td>
<td>a. Image beyond 2F</td>
<td>Real image, Inverted Image, Opposite</td>
<td>1. Online-offline web materials (4 web sites, 2 offline web pages)</td>
</tr>
<tr>
<td>Lens</td>
<td></td>
<td>side, Between F and 2F, Smaller than</td>
<td>2. Interactive materials (PhET, Genius Maker Free Edition)</td>
</tr>
<tr>
<td></td>
<td>b. Image on 2F</td>
<td>real image, Inverted Image, Opposite</td>
<td>3. Automated Quiz (15 questions)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>side on 2F, Equal to Object size</td>
<td>4. Computer based Comprehensive tests (2 scores questions 5, score questions 5)</td>
</tr>
<tr>
<td></td>
<td>c. Image between F</td>
<td>Real image, Inverted Image, Opposite</td>
<td></td>
</tr>
<tr>
<td>&amp; 2F</td>
<td></td>
<td>side, Beyond 2F, bigger than Object</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. Image on F</td>
<td>No Image</td>
<td></td>
</tr>
<tr>
<td></td>
<td>e. Image between F</td>
<td>Virtual image, Straight Image, Same</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and O</td>
<td>side, Between F and 2F, Bigger than</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Object size</td>
<td></td>
</tr>
</tbody>
</table>
2. Frame(s) Type: Evaluation Frame [No of Frames -5]

<table>
<thead>
<tr>
<th>Topic</th>
<th>Subtopic</th>
<th>Positive Alternatives</th>
<th>Negative alternatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Concave Lens</td>
<td>a. Object beyond 2F</td>
<td>Real image Inverted Image Opposite side Between F and 2F Smaller than Object size</td>
<td>Virtual image Straight Image Same side Between O and F On F On 2F Beyond 2F Bigger than object Equal to Object size</td>
</tr>
<tr>
<td></td>
<td>b. Image on 2F</td>
<td>Real image Inverted Image Opposite side on 2F Equal to Object size</td>
<td>Virtual image Straight Image Same side Between O and F On F On 2F Beyond 2F Bigger than object Smaller than object</td>
</tr>
<tr>
<td></td>
<td>c. Image between F &amp; 2F</td>
<td>Real image Inverted Image Opposite side Beyond 2F bigger than Object size</td>
<td>Virtual image Straight Image Same side Between O and F On F On 2F Beyond 2F Smaller than object Equal to Object size</td>
</tr>
<tr>
<td></td>
<td>d. Image on F</td>
<td>No Image</td>
<td>No Image</td>
</tr>
<tr>
<td></td>
<td>e. Image between F and O</td>
<td>Virtual image Straight Image Same side Between F and 2F Bigger than Object size</td>
<td>Real image Inverted Image Opposite side On F On 2F Beyond 2F Smaller than Image Equal to Object size</td>
</tr>
</tbody>
</table>
3. Web based Communication Schedule:

<table>
<thead>
<tr>
<th>No</th>
<th>Mode of Communication</th>
<th>Topic</th>
<th>Duration</th>
<th>Time</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Discussion Forum</td>
<td>Lenses- uses and properties</td>
<td>1 day</td>
<td>Any time</td>
<td>Before starting the learning session</td>
</tr>
<tr>
<td>2</td>
<td>Intermediate chat (text)</td>
<td>Convex Lens</td>
<td>1 hour</td>
<td>4.00 to 5.00</td>
<td>During Assignment I</td>
</tr>
<tr>
<td>3</td>
<td>Intermediate chat</td>
<td>Concave Lens</td>
<td>1 hour</td>
<td>4.00 to 5.00</td>
<td>During Assignment II</td>
</tr>
<tr>
<td>4</td>
<td>Feedback discussion (through Forum)</td>
<td>Feedback discussion</td>
<td>1 day</td>
<td>Any time</td>
<td>After the completion of topic and Feedback</td>
</tr>
</tbody>
</table>

4. Final Evaluation Frame:

<table>
<thead>
<tr>
<th>No</th>
<th>Question Type</th>
<th>Score(s)</th>
<th>Number of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Objective type</td>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td>2</td>
<td>Subjective type</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Subjective type</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Online Assignments</td>
<td>10</td>
<td>2</td>
</tr>
</tbody>
</table>

Objective Type Questions (1 Score) – 15 numbers
[Add all Questions Here]

Subjective Type Questions (2 scores) – 5 numbers
[Add all Questions Here]

Subjective Type questions (5 scores) – 5 numbers
[Add all Questions Here]

Online assignments (score 10) – 2 numbers
[Add all assignments here]
Appendices lv

Appendix VI

Specimens of Forms and Reports used in TCE Interface

Window 1: TCE home page

Window 1: Individual Data Entry Sheet
### Window 3: Subject Score entry - Class wise

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Lang</th>
<th>Eng</th>
<th>Hindi</th>
<th>Phy</th>
<th>Chem</th>
<th>Bio</th>
<th>Maths</th>
<th>SS</th>
<th>ICT</th>
<th>Sports</th>
<th>Arts</th>
<th>WE</th>
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<tbody>
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<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
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<td>2</td>
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<td>0</td>
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<td>0</td>
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</tr>
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<td>13</td>
<td>RANJITH T P</td>
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<td>15</td>
<td>ATHIRA T</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Window 4: Entry of absent details Class wise

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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</tr>
<tr>
<td>2</td>
<td>AKSHAY A</td>
<td>0</td>
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## Window 5: IPAM Entry form

### Moodle based Learning Management System

#### Teacher Controlled Entry form

**Activity Score Entry (IPAM)**

*Trials: Number of trials taken to complete the activity / Number of Hits*  
*Time: Time spend to complete the activity (in minutes)*

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### Moodle based Learning Management System

**Teacher Controlled Entry Form**

**Activity Score Entry (GPAM)**

*Hit: Number of Hits on reference area. *Hang: Non idle Hanging Time (in minutes)*

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**Moodle based Learning Management System**

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**Appendices** lxii

Window 9: Individual Data card

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**Moodle based Learning Management System**

**Individual Data Card**

**Name of Student:** ABHIJITH P P - **Class:** 9

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**Enter Scores Achieved in each Subjects**

**Enter number of days NOT attended in the Class**

**Enter Scores in Physics Achievement**

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*IPAM - Individual Participation Assessment Module
*GPAM - Group Participation Assessment Module

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**IPAM Scores**

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Name of Student: ________________________________, Male / Female.
Name of School: ____________________________________________
place: ______________________________________
Date: ___/___/______  Signature: ________________________________

[SELECT ‘√’ THE SINGLE “BEST” CHOICE]

1. What happens to the path of the ray of light when it passes obliquely from one medium to
another?
   A. No deviation takes place.
   B. It deviates towards the normal, from an optically denser medium to a rarer medium
   C. It deviates towards the normal, from an optically rarer medium to a denser medium
   D. It depends on the brightness of the light

2. Select the medium with highest optical density.
   A. Air
   B. Water
   C. Glass
   D. Diamond

3. What is the critical angle of water?
   A. 48.6
   B. 42.8
   C. 46.8
   D. 42.6

4. What is the name of the angle of incidence in the optically denser medium for which the angle
   of refraction is 90°?
   A. Incidence angle.
   B. Critical angle.
   C. Incidental angle.
   D. Refraction angle.

5. What happens to the path of light, when light was incident at an angle greater than the
critical angle?
   A. The ray of light gets reflected totally back to the medium itself.
   B. The ray of light passes outside the present medium.
   C. The ray of light passes to the rarer medium.
   D. The ray of light reaches back to the source of light.

6. What phenomena work behind bicycle reflectors?
   A. Refraction
   B. Total internal reflection.
   C. Partial refraction
   D. Partial internal reflection.
7. What happens to the light ray, which passes through optic centre?
   A. Will go through Focus
   B. Will reflect
   C. Will pass through Lens without any change
   D. Will pass through 2F on the other side

8. “Light appears to diverge from a point in the same side of the lens where the rays fall”. In which of the following case this statement is true?
   A. In the case of a convex lens
   B. In the case of a concave lens
   C. Both cases.
   D. None of these.

9. An object is placed at the focus of a convex lens. Where will the image be formed?
   A. The focus of opposite side
   B. At 2F.
   C. Between F and 2F
   D. None.

10. An object is placed between F and the convex Lens. What will the nature of the image be formed?
    A. Real and Small
    B. Virtual and small
    C. Real and Larger
    D. Virtual and larger.

11. “The image formed by a concave lens cannot be seen on a screen”. What is your opinion about this statement?
    A. Always true
    B. Sometimes true
    C. True when object is at Focus
    D. False.

12. From the following options select the lens formula?
    A. $1/f = 1/u + 1/v$
    B. $1/v = 1/f + 1/u$
    C. $1/u = 1/v + 1/f$
    D. $f = u + v$

13. What do you mean by 'Near Point'?
    A. It is the focus of a lens.
    B. It is the maximum distance for clear vision.
    C. It is the point that can see distant objects clearly.
    D. It is the minimum distance of clear vision.

14. Consider the following statements
    I. Image produced by a convex lens is always virtual.
    II. Image produced by concave lens will always be smaller than the object.
    A. I and II are always True
    B. I is sometimes true and II is always true
    C. I and II are False
    D. None of the above

15. The distance between the lens and the object is increased. What changes will occur in the distance between lens and the image?
    A. Increase
    B. Decrease
    C. First increase then decrease
    D. First decrease then increase

16. When V of a lens become positive?
    A. When image is real
    B. When image is virtual
    C. For both real and virtual
    D. None
17. Focal length of a convex lens is 10cm. Distance between the lens and the object is 15 cm. What will be properties of the image?
   A. Real  B. Virtual  C. Both real and bigger  D. Virtual and diminished

18. An object is placed beyond 2F of a convex lens. Where the image be formed?
   A. F of other side  B. Between F and 2F of other side  C. Beyond 2F of other side  D. Same side

19. Read the following options. In which situation the lens will produce a real image?
   A. An object is placed at 2F of a Convex Lens  B. An object is placed at 2F of a Concave Lens
   C. An object is placed at F of a Convex Lens  D. An object is placed at F of a Concave Lens

20. A convex lens produces real and bigger image than object. What is the position of the object?
    A. At F  B. At 2F  C. Between F and 2F  D. None

21. Select the correct statement on Presbyopia.
    A. Can see nearby objects clearly, but cannot see distant objects.
    B. It is the decrease in the distance to the nearer point of the eye with age.
    C. Can see distant objects clearly, but cannot see nearer objects.
    D. It is the increase in the distance to the nearer point of the eye with age.

22. In one situation the convex lens will not give an inverted image. What is the position of the object at that time?
    A. At F  B. At 2F  C. Between F and O  D. Beyond 2F

23. Which is the unit of Lens Power.
    A. Dioptre  B. Deci meter  C. Jules  D. Newton

24. Select the correct statement based on the power of a lens.
    A. The unit of lens power is Jules.
    B. Power of a lens is the reciprocal of its focal length in meter.
    C. Power of a lens is the double of its focal length/2.
    D. If the power is low, the image is formed near the lens.

25. Some people can see nearby objects clearly, but cannot see distant objects. What is the name of this defect?
    A. Hypermetropia.
    B. Myopia.
    C. Hypermyopia.
    D. Presbyopia.
Answer Key - Achievement Test in Physics (Refraction of Light)

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1. Masses of two objects separated by 2m is 4 kg and 2 kg respectively. The force of attraction between them is
   a) 6.67x10^{-11}N  
   b) 13.34x10^{-11}N  
   c) 16.67x10^{-11}N  
   d) 12.34x10^{-11}N

2. What happens to the force of attraction between two bodies when mass one of one body is doubled?
   a) Doubled  
   b) Increased thrice  
   c) Decreased by half  
   d) No change

3. Which letter is used to indicate ‘Gravitational Constant’?
   a) M  
   b) m  
   c) G  
   d) S

4. What happens to the force of attraction between two bodies when the distance between them is doubled?
   a) Doubled  
   b) Increased thrice  
   c) Becomes ¼  
   d) No change

5. The gravitational force on a body will be maximum if it is placed
   a) At equator  
   b) Poles  
   c) Both at equator and poles  
   d) Away from poles

6. The effective force of attraction by earth on an object placed at the centre of earth will be
   a) 1  
   b) 2  
   c) 0  
   d) 9.8

7. The force of attraction by earth is greater on an object having
   a) Greater mass  
   b) Lesser mass  
   c) Greater strength  
   d) Greater speed
8. Select the factor that influences acceleration due to gravity of earth
   a) Speed b) Acceleration c) Time d) Mass

9. If the value of R is made smaller, what will be its effect on the value of 'g' while calculating
   acceleration due to gravity?
   a) Doubles b) Decreases c) Will remain the same d) Increases

10. The gravitational force at the centre of earth will be
    a) 9.8 b) 1 c) 10 d) 0

11. The gravitational force of attraction of the earth on an object is its
    a) Mass b) Weight c) Both d) Acceleration due to gravity

12. Which is correct according to the value of 'g'?
    a) Moon < Earth equator < Pole b) Earth equator < Pole < Moon
    c) Pole < Moon < Earth equator d) Moon < Pole < Earth equator

13. See the figures given below:

    Identify which is more stable?
    a) A b) B c) C d) A and B

14. What will be the weight of an object if it is falling freely from a height?
    a) 1 b) 0 c) 2 d) g

15. Write down the value of 'g' at poles.
    a) 9.83 m/s² b) 9.88 m/s² c) 9.98 m/s² d) 9.78 m/s²

16. Who conducted experiment using feather and coin?
    a) Edison b) Galileo c) Kepler d) Newton

17. When the quantity of matter increases,
    a) Mass also increases b) Mass may not increases
    c) Mass decreases d) None of these

18. The equation to find out acceleration due to gravity, 'g', is
    a) g=GM/R³ b) g=GM²/R² c) g=GM²/R d) g=GM/R²
19. The value of 'g' at the earth equator is
   a) 9.83 m/s²  b) 9.88 m/s²  c) 9.98 m/s²  d) 9.79 m/s²

20. According to the universal law of gravitation, the force due to gravity is
   a) directly proportional to the square of the distance between objects.
   b) inversely proportional to the square of the distance between objects.
   c) directly proportional to the distance between objects.
   d) inversely proportional to the distance between objects.

21. The value of 'g' at Jupiter
   a) 1.83 m/s²  b) 5.88 m/s²  c) 9.98 m/s²  d) 25.95 m/s²

22. How would the gravitational force between the Earth and Moon differ if the Moon were twice as far as it is now?
   a) Would be the same.
   b) Would decrease by less than two times.
   c) Would decrease by exactly two times.
   d) None of these

23. Why does the Earth exert a gravitational force on objects on its surface?
   a) It has an atmosphere  b) It has a magnetic field
   c) It has mass  d) None of these

24. Who was determined first the value of gravitational constant?
   a) Edison  b) Galileo  c) Newton  d) Cavendish

25. Two children weighing 50kg and 40kg respectively sit at a distance 2m. What is the force of attraction between them?
   a) G x 2000  b) G x 1000  c) G x 200  d) G x 500
## Answer Key - Achievement Test in Physics (Gravitation)

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GOVERNMENT BRENNEN COLLEGE OF TEACHER EDUCATION
THALASSERY – 670101
KANNUR UNIVERSITY
Achievement Test in Physics (Work, Energy and Power)

Name of Student: ____________________________, Male / Female.
Name of School: _____________________________ Division __________
place: __________________________
Date: __/__/____. Signature: ________________

[SELECT ‘✓’ THE SINGLE “BEST” CHOICE ]

1. The unit of work done is
   A) N/m   B) Nm   C) Nm²   D) N/m²

2. Potential energy is
   A) mgh   B) mg/h   C) mg²   D) mg

3. Potential energy is the energy of an object due to
   A) its position   B) its motion   C) its speed   D) force

4. The factors which affect the kinetic energy of an object are
   A) mass and velocity   B) only mass
   A) mass and acceleration   D) mass and height

5. Kinetic energy and Potential energy are the two forms of
   A) mechanical energy   B) Chemical energy
   C) electrical energy   D) thermal energy

6. Which is the conversion of energy that takes place when flowing water turns turbine?
   A) Potential energy to mechanical energy   B) Potential energy to Kinetic energy
   C) Kinetic energy to Mechanical energy   D) Kinetic energy to Potential energy

7. The total mechanical energy of an object is
   A) the sum of its Potential energy and Kinetic energy
   B) the double of its Kinetic energy
   C) the double of its Potential energy
   D) equal to the kinetic energy
8. The unit of work is
   A) Joule/second  B) Joule  
   C) Joule Second  D) Joule/second²

9. What is meant by '1 unit of electricity' ?
   A) 24 Kwhr  B) 12 Kwhr  C) 10 Kwhr  D) 1 KWhr

10. What will be the Potential energy when a flower vase of weight 10kg falls from 10m height ?
    A) 500 J  B) 1500 J  C) 100 J  D) 1000 J

11. In an electric fan the electrical energy is converted in to another energy form. Give the name?
    A) Electrical Energy  B) Thermal Energy 
    C) Mechanical Energy  D) Chemical Energy

12. The work needed to lift an object with a weight 2Kg to 2m height.
    A) 60N  B) 20N  C) 80N  D) 40N

13. Work is not considered to be done in a situation where there is no
    A) Motion  B) Free fall  
    C) Displacement  D) Movement

14. When a mass of 50 g is raised vertically through a distance of 10 m, the work done in the lifting is
    A) 0.5 J.  B) 5 J.  C) 50 J.  D) 500 J.

15. A ball of mass 0.3 kg released from rest at a height of 2 m. It hits the ground and rebounds to a height of 1.8 m. Calculate the amount of energy dissipated in the process.
    A) 1.5 J  B) 1.2 J  
    C) 0.6 J  D) 0.7 J

16. What does v stand for in the equation KE= ½ mv²?
    A) Height  B) Volts  
    C) Velocity  D) Power

17. A body of mass 2 kg is dropped from a height of 1m. Its kinetic energy as it touches the ground is
    A) 19.6 N  B) 19.6 J  
    C) 19.6 kg  D) None of these

18. A coolie carries a load of 500 N to a distance of 100 m. The work done by him is
    A) 5N  B) 50000Nm  
    C) 0 N  D) 1/5 N
19. Which of the following situations doesn’t have any work done
   A) A truck pulling a trailer along the road
   B) A waiter carrying a tray to a table
   C) A soccer player kicks a ball across the field
   D) A bodybuilder lifts a barbell above his head

20. The P.E. of a body at a certain height is 200 J. The kinetic energy possessed by it when it
    just touches the surface of the earth is
   A) Greater than P.E.   B) Less than P.E.
   C) Equal to P.E.      D) Cannot be known

21. If the speed of an object is doubled then its kinetic energy is
   A) Doubled   B) Quadrupled
   C) Halved    D) Tripled

22. A 1 kg mass has a kinetic energy of 1 joule when its speed is
   A) 0.45 m/s   B) 1 m/s   C) 1.4 m/s   D) 4.4 m/s

23. If air resistance is negligible, the sum total of potential and kinetic energies of a freely
    falling body
   A) Increases   B) Decreases
   C) Becomes zero D) Remains the same

24. Two objects of masses $1 \times 10^{-3}$ kg and $4 \times 10^{-3}$ kg have equal momentum. What is the ratio
    of their kinetic energies?
   A) 4 : 1   B) 2 : 1   C) 16 : 1   D) $\sqrt{2} : 1$

25. A force of 40 N pushes a 25 kg object across a level floor for 4 m. The work done in J is
   A) 10.   B) 100.   C) 160.   D) 1 000.
Answer Key - Achievement Test in Physics (Work, Energy and Power)

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