PERI INSTITUTE OF TECHNOLOGY

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# Criterion 2

# Teaching- Learning and Evaluation

## Key Indicator- 2.3 Teaching- Learning Process

### 2.3.1 Student Centric Methods

IQAC
Committed to Excellence

**2.3.1 Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences and teachers use ICT- enabled tools including online resources for effective teaching and learning process**


| Sl .No | Description | Page No. |
|---|---|---|
| | **Problem Solving Methodology** | |
| 1 | Tutorials | 1-7 |
| 2 | Innovative Assignment | 8-32 |
| 3 | Hackathons | 33-36 |
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PERI INSTITUTE OF TECHNOLOGY

**PERI INSTITUTE OF TECHNOLOGY**
**DEPARTMENT OF SCIENCE AND HUMANITIES**

## TIME TABLE ACADEMIC YEAR 2022– 2023 (EVEN SEMESTER)

Year / Sem: I / II  Section: MECH  Room No: BS 6  W.E.F: 08.05.23

| Days / Hour | 1<br>8:30-9:15 | 2<br>9:15-10:00 | BREAK (10.00 – 10.15) | 3<br>10:15-11:00 | 4<br>11:00-11:45 | BREAK (11.45 – 12.30) | 5<br>12:30-1:15 | 6<br>1:15-2:00 | BREAK (2.00 – 2:10) | 7<br>2:10-2:55 | 8<br>2:55-3:40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Monday | MA3251<br>SNM | HS3252<br>ENG | | PH3251<br>PHY | INTERACTIVE HOUR | | GE3251<br>EG | GE3251<br>EG | | GE3252<br>TAMIL | BE3251<br>BEEE |
| Tuesday | PH3251<br>PHY | HS3252<br>ENG | | MA3251<br>SNM (T) | BE3251<br>BEEE | | GE3271<br>EPL LAB | | | BE3251<br>BEEE | MA3251<br>SNM |
| Wednesday | HS3252<br>ENG(T) | MA3251<br>SNM | | PH3251<br>PHY | BE3251<br>BEEE | | BE3251<br>BEEE | MA3251<br>SNM | | GE3252<br>TAMIL | PH3251<br>PHY |
| Thursday | BE3251<br>BEEE | PH3251<br>PHY | | MA3251<br>SNM | BE3251<br>BEEE (T) | | GE3251<br>EG | GE3251<br>EG | | MA3251<br>SNM | PH3251<br>PHY |
| Friday | GE3251<br>EG | PH3251<br>PHY(T) | | HS3252<br>ENG | GE3251<br>EG(T) | | BE3251<br>BEEE | BE3271<br>BEEE LAB | | BE3271<br>BEEE LAB | |

| S. No. | Subject Code | Subject Name | Name of the Faculty | Dept. | No. of Hours |
|---|---|---|---|---|---|
| 1. | HS3252 | Professional English II | Dr. C.N.Vidhyalakshmi | English | 4 |
| 2. | MA3251 | Statistics and Numerical Methods | Ms.Sunganthi | Mathematics | 6 |
| 3. | PH3251 | Materials Science | Dr. K S Venkatesh | Physics | 5 |
| 4. | BE3251 | Basic Electrical and Electronics Engineering | Ms.Pandyselvi | EEE | 7 |
| 5. | GE3251 | Engineering Graphics | Mr.Anilkumar | MECH | 6 |
| 6. | GE3252 | தமிழரும் தொழில்நுட்பமும் /Tamils and Technology | Dr.J.Ravi | Tamil | 2 |
| 7. | GE3271 | Engineering Practices Laboratory | Ms.Saima/ Ms.Pandyselvi / Dr.R.M.Sathiyamoorthy | ECE/EEE/MECH | 2 |
| 8. | BE3271 | Basic Electrical and Electronics Engineering Laboratory | Dr.P.Yamuna | EEE | 3 |
| 9. | GE3272 | Communication Laboratory / Foreign Language | Dr. C.N.Vidhyalakshmi | English | 1 |
| | PT HOUR – Mr.Asirvatham | | INTERACTIVE HOUR – HOD | | |
| | CLASS INCHARGE – Ms.Suganthi | | | | |

TIME TABLE COORDINATOR  HOD  PRINCIPAL

30-05-2023 (3rd Hr) Chapter-02

1. The following are the numbers of mistakes made in 5 successive days of 4 technicians working for a photographic laboratory:

| Technician I ($X_1$) | Technician II ($X_2$) | Technician III ($X_3$) | Technician (IV) ($X_4$) |
|---|---|---|---|
| 6 | 14 | 10 | 9 |
| 14 | 9 | 12 | 12 |
| 10 | 12 | 7 | 8 |
| 8 | 10 | 15 | 10 |
| 11 | 14 | 11 | 11 |

Test at the level of significance $\alpha = 0.01$, whether the difference among the 4 sample means, can be attributed to chance.

There is no significant difference between the technicians (columns)

There is significant difference between the technicians (columns)

Technicians

| I $X_1$ | II $X_2$ | III $X_3$ | IV $X_4$ | Total | $X_1^2$ | $X_2^2$ | $X_3^2$ | $X_4^2$ |
|---|---|---|---|---|---|---|---|---|
| -4 | 4 | 0 | -1 | -1 | 16 | 16 | 0 | 1 |
| 4 | -1 | 2 | 2 | 7 | 16 | 1 | 4 | 4 |
| 0 | 2 | -3 | -2 | -3 | 0 | 4 | 9 | 4 |
| -2 | 0 | 5 | 0 | 3 | 4 | 0 | 25 | 0 |
| 1 | 4 | 1 | 1 | 7 | 1 | 16 | 1 | 1 |
| T = -1 | 9 | 5 | 0 | 13 | 37 | 37 | 39 | 10 |

Step 1: $N = 20$, $T = 13$, $C.F = 8.45$

Step 2: $TSS = 37 + 37 + 39 + 10 - 8.45$

$= 114.55$

Step 3: $SSC$ = Number of elements in each column $= 12.95$

Step 4: $SSE = TSS - SSC = 114.55 - 12.95 = 101.6$

Analysis of variance table for one way classification

| Source of variation | Sum of Squares | Degrees of freedom | Mean Sum of Squares | Variance Ratio | Table value of F |
|---|---|---|---|---|---|
| columns | $SSC = 12.95$ | $C-1 = 4-1 = 3$ | $MSC =$ | $F_c = 1.471$ | 5% $F_c(16,3)$ |
| Error | $SSE = 101.6$ | $N-C = 20-4 = 16$ | $MSE =$ | | $= 8.68$ 1% |
| Total | $TSS = 114.55$ | | | | 26.89 |

conclusion:

Cal $F_c = 1.471 <$ Tab $F_c(16,3) = 8.68$

[There is a no significant difference]

(2) What are the basic principles of design of experiments?

1. Randomization.
2. Replication.
3. Local control.

(3) Explain ANOVA:

ANOVA enables us to divide the total variation (represented by variance) in a group into parts which are accounted to different factors and a residual random variation which could be accounted for by any of these factors. The variation due to any specific factor is compared with the residual variation for significance, and hence the effects of the factors are concluded.

(4) Explain replication:

In order to study the effects of different manures on the yield are studied, each manure is used in more than one plot. In other words, we resort to replication which means replication.

⑤ The following is a Latin square of a design, when 4 varieties of seeds are being tested. Set up the analysis of variance table and state your conclusion. You may carry out suitable change of origin and scale.

| | | | |
|---|---|---|---|
| A 105 | B 95 | C 125 | D 115 |
| C 115 | D 125 | A 105 | B 105 |
| D 115 | C 95 | B 105 | A 115 |
| B 95 | A 135 | D 95 | C 115. |

Substract 100 and then divided by 5, we get.

| | | | |
|---|---|---|---|
| A 1 | B -1 | C 5 | D 3 |
| C 3 | D 5 | A 1 | B 1 |
| D 3 | C -1 | B 1 | A 3 |
| B -1 | A 7 | D -1 | C 3. |

| | $X_1$ | $X_2$ | $X_3$ | $X_4$ | T | $X_1^2$ | $X_2^2$ | $X_3^2$ | $X_4^2$ |
|---|---|---|---|---|---|---|---|---|---|
| $Y_1$ | 1 | -1 | 5 | 3 | 8 | 1 | 1 | 25 | 9 |
| $Y_2$ | 3 | 5 | 1 | 1 | 10 | 9 | 25 | 1 | 1 |
| $Y_3$ | 3 | -1 | 1 | 3 | 6 | 9 | 1 | 1 | 9 |
| $Y_4$ | -1 | 7 | -1 | 3 | 8 | 1 | 49 | 1 | 9 |
| Total. | 6 | 10 | 6 | 10 | 32 | 20 | 76 | 28 | 28. |

Step 1: $N = 16$, $T = 32$, $CF = 64$

Step 2: $TSS = 20 + 76 + 28 + 28 - 64$

$= 88$

Step 3: $SSC = N_1$ = Number of elements in each column = 4

Step 4: $SSR = N_2$ = Number of elements in each row = 2

Step 5: SSK

| | | | | | |
|---|---|---|---|---|---|
| A | 1 | 1 | 3 | 7 | 12 |
| B | -1 | 1 | 1 | -1 | 0 |
| C | 5 | 3 | -1 | 3 | 10 |
| D | 3 | 5 | 3 | -1 | 10 |

$SSk = N_2$ = Number of elements in each row = 22

Step 6: $SSE = TSS - SSC - SSR - SSK$

$= 88 - 4 - 2 - 22$

$= 60$.

ANOVA table.

| Source of Variance | Sum of Squares | Degrees of freedom | Mean sum of Squares | Variance Ratio | Table value of F |
|---|---|---|---|---|---|
| Columns | SSC = 4 | C-1 = 4-1 = 3 | MSC = 1.33 | $F_C$ = 7.52 | $F_C(6,3)$ = 8.94 |
| Rows | SSR = 2 | C-1 = 4-1 = 3 | MSR = 0.67 | $f_R$ = 14.9 | $F_R(6,3)$ 8.94 |
| Treatments | SSt = 22 | C-1 = 4-1 = 3 | MSt = 7.33 | $F_t$ = 1.36 | $F_t(6,3)$ = 8.94 |
| Error | SSE = 60 | (C-1)(n-2) = 6 | MSE = 10 | | |

Conclusion:

Cal $F_C$ = 7.52 < Tab $F_C(6,3)$ = 8.94 (There is significant difference)

Cal $F_R$ = 14.9 > Tab $F_R(6,3)$ = 8.94 (There is no significant difference)

Cal $F_t$ = 1.36 < Tab $F_t(6,3)$ = 8.94 (There is significant difference).

24/8/2022

V. THENMOZHI
CIVIL - III.

# NEPAL EARTHQUAKE - 2015

## CASE STUDY.

### NEPAL EARTHQUAKE 2015 :

* Date : 25 April 2015.
* Origin time : 11:56:26 NST.
* Magnitude : 7.8 $M_w$.
* Hypocenter : 8.2 km.
* Epicenter : Barak village, Gorkha District.
* Nearly 9000 people died.
* Nearabout 22000 injured.
* The earthquake triggered an avalanche on Mount Everest that killed 21 members, another huge avalanche in the Langtang valley where 250 people missing.
* Properly loss - approximately USD 4 million.
* 600,000 people internally displaced.

### CAUSES OF EARTHQUAKE :

* This earthquake occured as the result of thrust faulting between the sub ducting Indian

Peri Institute of Technology, Chennai - 48.

Plate and the overriding Eurasian Plate to the north.

* At the location of this earthquake the Indian Plate is converging with Eurasian at a rate of 45 mm/yr. towards the north-northeast, driving the uplift of the Himalayas and the Tibetan plateau.

ECONOMIC IMPACT:

* Impact on GDP growth. The earthquake lowered GDP growth by over 1.5 percentage points from an estimate of 4.6 %. in a no earthquake scenario in fiscal year 2015.

* Impact on Per Capita Income, Poverty -

* The Income shock from the earthquake pushed an additional 700000 - 982000 people below the poverty line.

IMPACT ON INFRASTRUCTURE:

* Government Buildings: 4231 including partially & fully damaged.

* Private houses: 169,907 including partially & fully damaged.

* 1000 health facilities were destroyed.

* 7000 schools were destroyed.

IMPACT ON HERITAGE SITES:

* Several temples on kathmandu Durbar square.

* Dharahara tower, built in 1832; the collapse of the later structure killed at least 180 people.

* Manakamana Temple in Gorkha.

* Patan darbarsquare.

RESPONSE DURING EARTHQUAKE:

* Local people are the first responder.

* Nepal Army, APF and Nepal police are mobilized for the rescue.

* Nepal and International Red Cross were actively involved for treatment of injured people. providing 1500 volunteer and 300 staff.

NATIONAL ROLE FOR DISASTER MANAGEMENT:

* Disaster managoment in Nepal's constitution, 2015.

* Enachment of Disaster Risk Reduction and managoment Act, 2017.

* Local Government Operation (LGO) Act, 2017.

* National Building code (NBC).

Introduction about Tectonic plate :

Plate tectonics is the theory that explains the global distribution and explains how major landforms are created as a result of Earth's subterranean movements.

The theory, which solidified in the 1960's, transformed the earth sciences by explaining many phenomenon, including mountain building events, valcanoes and earthquake.

The uppermost layer of the earth the lithosphere is split into large plates that move with respect to each other, sliding on a weak asthenosphere below to produce deformation of the earth's crust and to create all the positive and negative morphological forms at the Earth's surface.

Plate tectonics and orogeny :

The concept of "plate tectonics" or new global tectonics" was formulated in the 1960's and has since become a tectonic paradigm. In spite of many uncertainties, there is a general belief that it can amount for nearly all aspects of the evaluation of continents.

8/10

21/11/2023 OS Assignment

A. Reshma
211521104093
II CSE - B

26/30

1) Android OS

Android is a mobile operating system based on a modified version of the Linux kernal and other open-source software, designed primarily for touch screen mobile devices such as smart phones and tablets. Android is developed by a partnership of developers known as the Open Handset Alliance and commercially sponsored by Google. It was ~~discovered~~ disclosed in November 2007, was the first commercial Android device, the HTC Dream, launched in September 2008.

It is free and open-source software. Its source code is Android open source project. primarily licensed under the Apache license. However, most Android devices dispatch with additional proprietary software pre-installed, mainly Google mobile service, including core apps such as Google Chrome, the digital distribution Platform Google play and the associated Google play services development platform.

* About 70% of Android Smartphone runs Google's eco system, some with vendor customized user interface and some with software suite, such as Touchwiz and later One UI by Samsung, and HTC sense.

* competing Android ecosystems and forks include Fire OS (developed by Amazon) or Lineage OS. However the "Android" name and logo are trademarks of Google which impose standards to restrict "uncertified" devices outside their ecosystem to use android branding.

Features of Android operating system:

Below are the following unique features and characteristic of the android OS, such as

1. Near field communication
2. Storage and battery swap
3. Infared Transmission
4. custom home screen
5. Automation
6. widgets
7. App downloads
8. custom ROMs

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1) Near Field communication:

Most Android devices support NFC, which allows electronic devices to interact across short distances easily. The main goal here is to create a payment option that is simpler than carrying cash or credit cards, and while the market hasn't exploded as many experts has predicted, there may be an alternative in the works, in the form of Bluetooth low energy (BLE).

2) Infarred Transmission:

The Android operating system supports a built-in infrared transmitter that allows you to use your phone (or) tablet as a remote control.

3) Automation:

The Tasker app allows control of app permissions and also automates them.

4) Wireless App Downloads:

You can download apps on your pc by using the Android Market or third-party options like App Brain. Then it automatically syncs them to your Droid, and no plugging is required.

5) Storage and Battery swap

Android phones also have unique hw capabilities. Google's OS make it possible to upgrade, replace, and remove your battery that

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6) Custom Home Screens

While it's possible to hack certain phones to customize the home screen, Android comes with this capability from the get-go. Download a third Party launcher like Apex, Nova, and you can add gestures, new shortcuts, or even performance enhancements for older-model devices.

7) Widgets

Apps are versatile, but sometimes you want information at a glance instead of having to open an app and wait for it to load. Android widgets let you display just about any feature you choose on the home screen, including weather apps, music widgets, or productivity tools that helpfully remind you of upcoming meetings or approaching deadlines.

8) Custom ROMS

Because the Android operating system is open-source, developers can twist the current OS and build their versions, which users can download and install in place of the stock OS. Some are filled with features, while others change the look and feel of a device. Chances are, if there's a feature you want, someone has already built a custom ROM for it.

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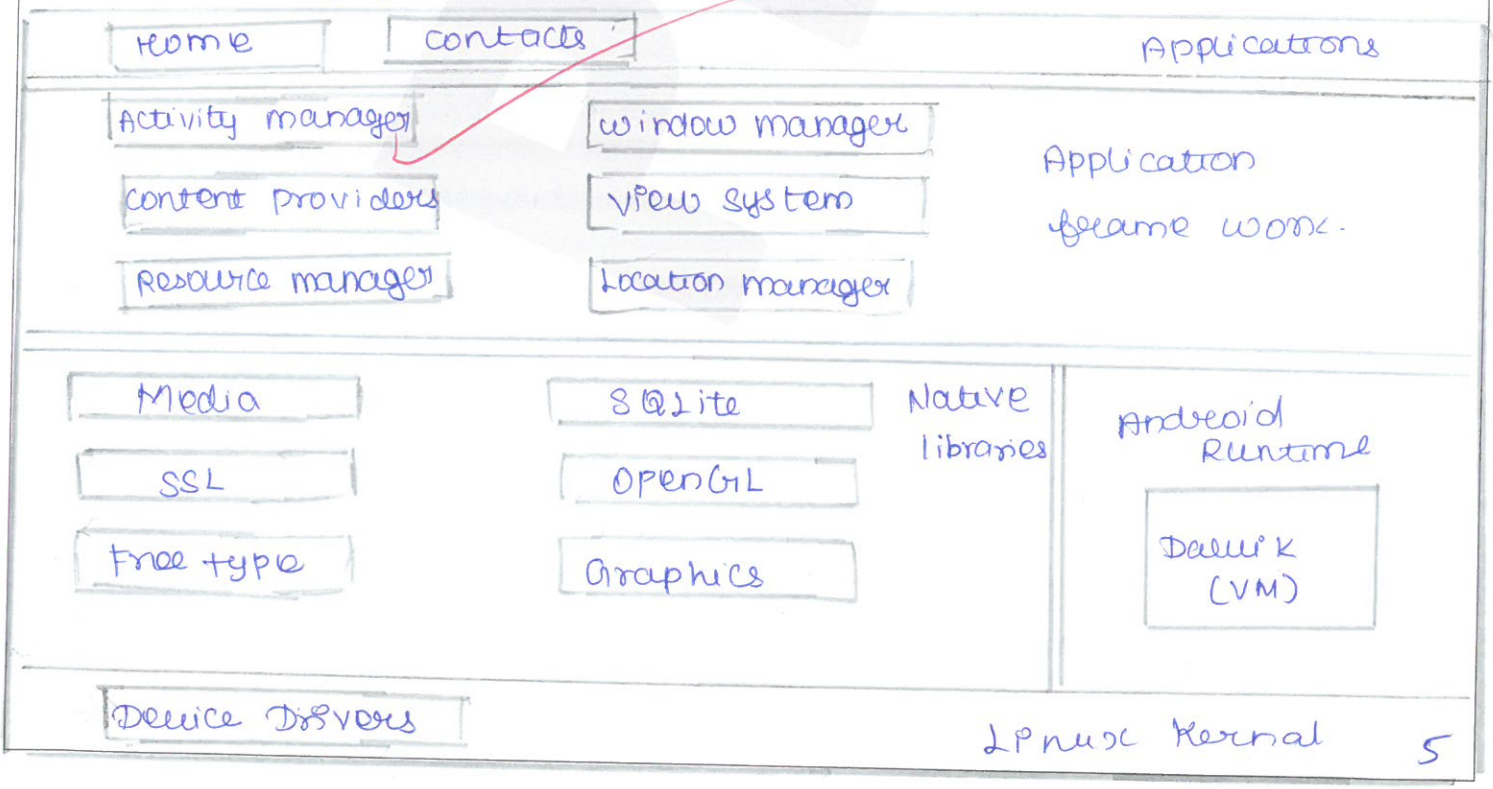
## Architecture Of Android OS

The android architecture contain a different number of components to support any android device needs. Android software contain an Open source Linux Kernal with many C/C++ libraries exposed through application framework services.

Among all the components, Linux Kernal provides the main operating system functions to smartphone and Dalvik Virtual Machine (DVM) to provide a platform for running an android application. An android operating system is a stack of software components roughly divided into five sections and four main layers.

* Applications
* Application framework
* Android Runtime
* Platform libraries
* Linux Kernal.



1) Applications:

An application is the top layer of the android architecture. The pre installed applications like camera, gallery, home, contacts, etc., and third-party applications downloaded from the play store like games, chat applications, etc., will be installed on this layer.

Its run within the Android run time with the help of the classes and services provided by the application framework.

2) Application framework:

Application framework provides several important classes used to create an Android application. It provides a generic abstraction for hardware access and helps in managing the user interface with application resources. Generally it provides the services with the help of which we can create a particular class and make that class helpful for the Application creation.

The Android framework includes the following key services:

* Activity Manager: controls all aspects of the application lifecycle and activity stack.

* Content providers: Allows applications to publish and share data with other applications

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* Resource Manager: Provides access to non-code embedded resources such as string, colour settings and user interface layouts.

* Notification Manger: Provide to allows applications to display alerts and notifications to the user.

* View system: An extensible set of views used to create application user interfaces.

3) Application runtime

Android Runtime environment contains components like core libraries and the DVM. It Provides base for the application frame work and powers our application with the help of the core libraries.

Like JVM, DVM is register-based virtual machine designed and optimized for Android to ensure that a device can run multiple instances efficiently. It depends on the layer Linux Kernal for threading and low-level memory management. The core libraries enable us to implement android applications using the standard JAVA or Kotlin programming languages.

4) platform Libraries:

The platform Libraries include various C/C++ core libraries and Java-based libraries such as Media, Graphics, Surface Manager, OpenGL, etc., to support Android development

* app: provides access to the application model and is the corner stone of all Android applications.

* content: Facilitates content access, publishing and messaging between applications and application components.

* database: used to access data published by content providers and includes SQLite database, management classes.

* OpenGL: A Java interface to the OpenGL ES 3D graphics rendering API.

* OS: provides applications with access to standard OS services, including messages, system services and inter Process communication.

* text: used to render and manipulate text on a device display.

* View: The fundamental building blocks of application user interface.

* SSL: Secure Sockets Layer is a security technology to establish an encrypted link between a web server and web browser. widget, webkit, media, surface manger also plays it the Platform libraries

5) Linux Kernal

Linux Kernal is the heart of the android architecture. It manages all the available deivers such as display, camera, Bluetooth, audio, memory etc, required during the runtime.

* Security: The Linux Kernal handles the security between the application and the system.

*Memory management: It efficiently handles memory management, thereby providing the freedom to develop our apps.

*Process Management: It manages the process well, allocates resources to process whenever they need them.

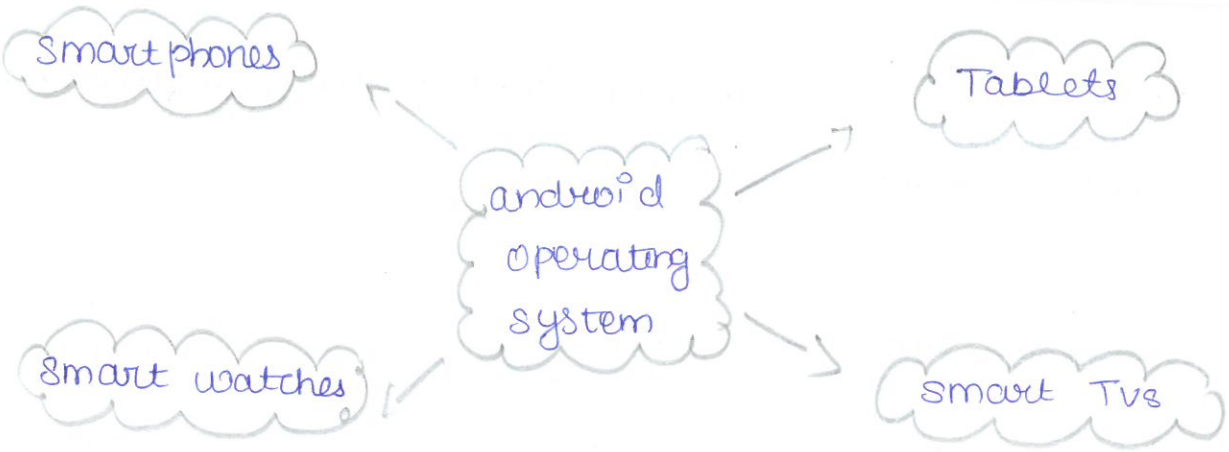
*Network Stack: It effectively handles network communication.

*Driver model: It ensure that the application works properly on the device and hardware manufacturers responsible for building their drivers into the Linux build.

## Android Applications

Android applications are usually developed in the Java language using the Android software Development Kit. Once developed, Android applications can be packaged easily and sold out either through a store such as Google play, SideME, Opera Mobile store, Mobango, F-droid or the Amazon App Store.

Android powers hundreds of millions of mobile devices in more than 190 countries around the world. It's the largest installed base of any mobile platform and growing fast. Every day more than 1 million new Android devices are activated world wide.




## Android Emulator:

The Emulator is a new application in the Android OS. The emulator is a new prototype used to develop and test android applications without using any physical device.

## Advantages:

* Android Google Developer
* Android users
* Android multitasking
* Google play store app
* Android Notification and easy access.
* Android weight.

## Disadvantage:

* Android advertisement POP-UPS
* Android require Gmail ID
* Android Battery Drain
* Android Malware/virus/security.

2) Virtualization:

Operating System - based Virtualization refers to an OS feature in which the kernal enables the existence of various isolated user - space instances. This installation of Virtualization s/w also refers to operating system - based Virtualisation It is installed over a pre - existing operating system and that OS is called host OS.

In this virtualization, a user installs the virtualization software in the operating system of his system like any other program and utilizes the application to operate and generate various virtual machines. Here, the virtualization software allows direct access to any of the created virtual machines to the user. As the host OS can provide hardware devices with the mandatory support, OS virtualization may affect compatibility issues of hardware even when the hardware driver is not allocated to the virtualization software.

Virtualization software is able to convert hardware IT resource that require unique s/w for operation into virtualized IT resources. As the host OS is a complete OS in itself, many OS - based services are available as organisational management

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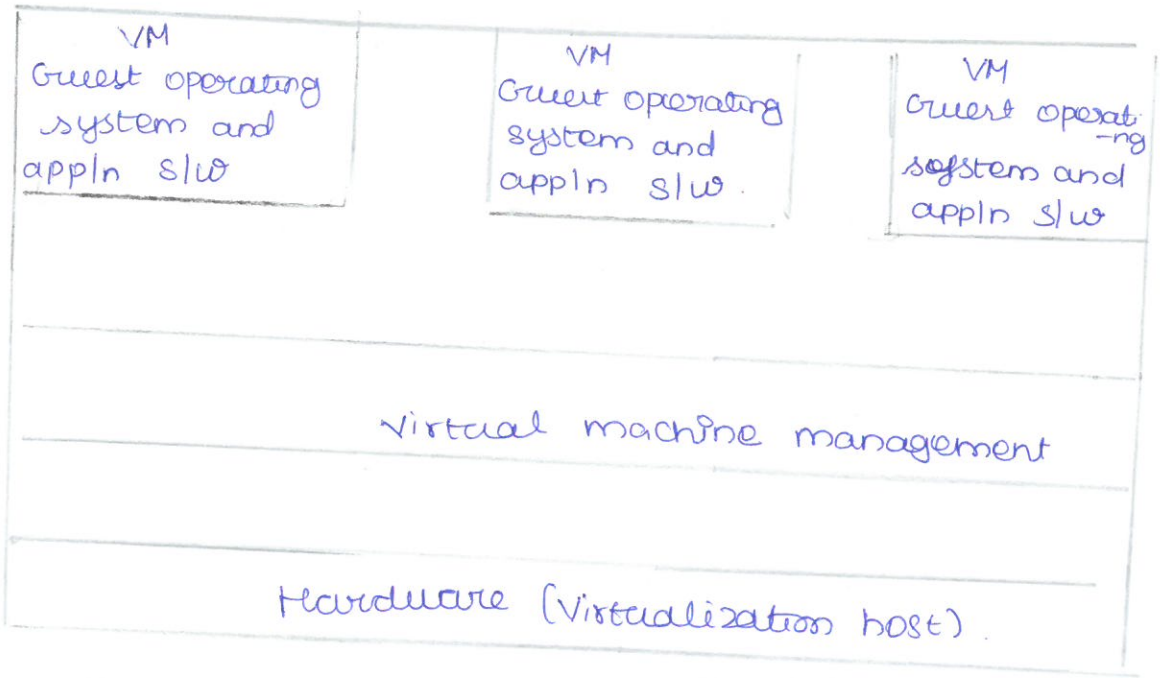
and administration tools can be utilized for the virtualization host management




Some major operating system-based services are mentioned below:

1. Backup and Recovery.
2. Security Management.
3. Integration to Directory services.

Various major operations of Operating system Based Virtualization are described below:

1. Hardware capabilities can be employed, such as the network connection and CPU.

2. Connected peripherals with which it can Interact, such as via webcam, printer, Keyboard, or Scanners.

3. Datas that can be read or written, such as files, folders, and network shares.

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. The operating system may have the capability to allow or deny access to such resources based on which the program requests them and the user account in the context of which it runs. OS may also hide these resources, which leads that when a computer program computes them, they do not appear in the enumeration results. Nevertheless, from a programming prespective, the computer program has interacted with those resources and OS has manged the act of interaction.

With operating-system-virtualization or containerization, it is probable to run programs with containers, to which only parts of these resources are allocated. A program that is expected to perceive the whole computer, once run inside a container, can only see the allocated resources and believes them to be all that is available. Several containers can be performed on each OS, to each of which a subset of the computer's resources is allocated. Each container may include many computer programs. These programs may run parallel or distinctly, even interrelate with each other.

Features of OS-based Virtualization are:

Resource Isolation: OS-based virtualization provide a high level of resource isolation, which allows

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each container to have its own set of resources including CPU, memory, and I/O bandwidth.

* Lightweight: Containers are lightweight compared to traditional virtual machines as they share the same host OS, resulting in faster startup and lower resource usage.

* portability: containers are highly portable, making it easy to move them from one environment to another without needing to modify the underlying application.

* Scalability: containers can be easily scaled up or down based on the application requirements, allowing applications to be highly responsive to changes in demand.

* Security: Containers provide a high level of security by isolating the containerized application from the host OS and other containers running on the same system.

* Reduced overhead: containers incurless overhead than traditional virtual machines, as they do not need to emulate a full hardware environment.

* Easy management: containers are easy to manage, as they can be started, stopped, and monitored using simple commands.

Operating system-based Virtualization can raise demands and problems related to performance overhead such as:

1. The host OS employs CPU, memory, and other h/w IT

resources.

2. Hardware-related calls from guest OS need to navigate numerous layers to and from the HW, which shrinkage overall performance.

3. Licenses are frequently essential for host OS, in addition to individual licenses for each of their guest operating systems.

Advantages of operating system-Based Virtualization:

* Resource efficiency
* High scalability
* Reduced costs
* Faster deployment
* Portability

Disadvantages of operating system-Based Virtualization:

* Security
* Limited Isolation
* Complexity
* Dependency issues.
* Limited hardware Access.

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3) Touch Screen Interface:

A touchscreen interface is an operating sy provides users with a way to interact directly with their devices by touching the screen, rath than using a keyboard or mouse. This technology has become increasingly common in smart phon tablets, laptop, and even desktop computers. Below i'll outline the key components and considerations of a touchscreen interface in an operating system.

Hardware Components:

Touch screen technology relies on specialized hardware components integrated into the display panel. There are several types of touch screen technologies, including resistive, capacitive, infrared, and surface acoustic wave (SAW). Each type has its own mechanism for detecting touch input, such as changes in electrical resistance (resistive), or interruption of infrared beams (infrared).

Driver software:

Touch screen hardware requires driver software to communicate with the operating system. This driver interprets touch input signals from the hardware and translates them into commands that the operating system can understand. Manufactures typically provide these

drivers, which are often included with the operating system or available for the download.

Operating system support:

Modern operating systems, such as windows, macOS, Linux, Android and iOS, offer built-in support for touchscreen interfaces. This support includes the ability to recognize touch input, interpret gestures (eg: tapping, swipping pinching), and provide appropriate feedback to users. OS also provide APIs (Application Programming interfaces) for developers to create touch-screen-friendly applications

User Interface elements:

Touch screen interface feature user interface elements optimized for touch interaction. These elements include buttons, sliders, check boxes, and text input field, which are typically larger and more spaced out to accomodate finger input. OS often employ visual cues, such as animations and feedback effects, to enhance the user experience and provide feedback on touch interactions.

Multi-Touch Gestures:

One of the defining features of touchscreen interfaces is support for multi-touch

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gestures, which enable users to perform complex interactions using multiple fingers simultaneously. common gestures include pinch-to-zoom, swipe-to-scroll, rotate, and tap-and-hold of context menus. Operating systems recognize these gestures inputs and translate them into corresponding actions within applications.

## Accessibility features:

Touchscreen interfaces often includes often accessibility features to accommodate users with disabilities or impairments. These features may include options for adjusting touch sensitivity, enabling voice commands, providing haptic feedback, or integrating alternative input methods, such as on-screen keyboards or stylus pens.

## Integration with applications:

Touchscreen interfaces must seamlessly integrate with applications to provide a cohesive user experience. Application developers must design their user interfaces with touch interaction in mind, ensuring that controls are appropriately sized, spaced, and responsive to touch input. Many development frame works and toolkits offer built-in support for touch interaction, simplifying the process for developers.[18]

## Security considerations:

Touchscreen interfaces may introduce additional security considerations, particularly in shared or public environments. Operating systems may implement features such as screen locking, password protection, and secure authentication methods to prevent unauthorized access to sensitive information or functions.

Overall, touchscreen interfaces in OS have revolutionized the way users interact with their devices, offering intuitive and engaging experiences across a wide range of devices and form factors. Continued advancements in touch screen technology and software development are likely to further enhance the capabilities and usability of the touchscreen interfaces in the future.

Here's simplified representation of how a touch screen interface works in an OS:

* Hardware layer:

Touchscreen panel: A layer of the display screen with embedded sensors.

Touch controller: Hardware component that processes touch input signals.

Driver software: Interprets signals from the touch controller and communicates with the OS.

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* Operating system Layer:

Touchscreen Driver: part of the operating system responsible for communicating with the touchscreen hardware.

Touch Input Recognition: Software algorithms that interpret touch signals into actionable commands.

Gesture Recognition: Algorithms that identify multi-touch gestures like pinch-to-zoom or swipe-to-scroll.

* User Interface Layer:

User Interface Elements: Buttons, sliders, text input fields, etc., optimized for touch interaction.

Multi-Touch Gestures: Supported actions like tapping, swiping, pinching, and rotating.

Visual Feedback: Animations and effects to indicate touch interactions and system responses.

* Accessibility Layer

Touch-Optimized Applications: programs designed to work seamlessly with touch input.

Touch-friendly user Interfaces: controls and layouts tailored for touch interaction.

Integration with OS: utilizes OS-provided APIs for touch input and gestures.

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* Security Layer:

Screen locking: Mechanism to prevent unauthorized access to the device.

Secure authentication: Methods like PINs, password, or biometrics for user verification.

Secure Data handling: Measures to protect sensitive information from unauthorized access.

This representation illustrates how touch input flows from the hardware layer through the OS to the user interface and applications, with considerations for accessibility and security throughout the process.

Advantages:

* Intuitive interaction
* Ease of use
* space saving
* Multi-touch support
* Accessibility

Disadvantages:

* Fatigue and strain
* Lack of tactile feedback
* Accuracy issues
* Smudging and cleaning
* Limited use in certain environment
* Cost

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**REPORT ON EVENT**

| | |
|---|---|
| **Department** | Electronics and Communication Engineering |
| **Type of Event** | Hackathon |
| **Title of the Event** | **"HACKATHON PERI'18"** |
| **Date and Time** | 01.09.2018 and 02.09.2018 at 9:30 AM |
| **Mode of Event** | Offline |
| **Details of Participants** | For all Students |
| **Details of Resource Person** | **Mr. Markandan, Assistant Professor , Anand Institute of higher Technology**<br>**Mr.Thomas Lenoid, Assistant Professor ,KCG Engineering College of Technology**<br>**Mr. Krishna Kumar, Technical Lead , Hexaware Technology**<br>**Mr. Iyyappan, Technical Lead ,Tata Consultancy Service** |
| **Report on Event** | HACKATHON '18 is a non- stop 24 hours program which involves hardware and software programming with the goal of creating a functioning product by the end of the event.Principal of PERI Institute of Technology, Dr. R. Palson Kennedy presided over the functionand in his speech he appreciated the department of ECE for conducting this Hackathon program for the first time in PERI Institute of Technology and he wished all to get success inlife.Next, the Head of the Department, Dr. P. R. Jasmine Jeni welcomed the gathering. She praised the students for getting themselves involved in this program and encouraged the staff to make it a success. She also thanked the management and principal for considering the Hackathon PERI'18 event.Then, the program commenced exactly at 10:30 am. More than 150 students from various colleges and universities participated to show their excellence. The crew members were allocated different classrooms to enroot their project. They had the battle against their fellowwarrior in the act of wisdom and chivalry.After few hours, the first round of judgement started. Judges from various engineering colleges and universities visited the program and discussed with every batch of students. For the first round, the participants were asked to give their problem statement and the solution |

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| | that they came up with for that issue.Around 1:00 pm they were given a lunch break and it started again at 2:00 pm. Participants gave their involvement to the fullest. Refreshments were given to them now and then. Around 4:00 pm, the second round of judgement started where the participants were asked to explain about their project and why they have chosen that particular issue.The grades were announced after every round of judgement. Two teams were disqualified after second round. Later the participants were given 1 hour break where the institute conducted games and other activities so as to avoid tiredness of students and faculties. All the students, very enthusiastically involved themselves.Mr. Thomas Lenoid, Assistant Professor from KCG College of Engineering who appraises the students about their project during second round of evaluation.The student voluntaries organized the refreshment program and participants enjoyed the moment.The participants and staff members had their dinner at 8:00 pm and continued with their project work. At 12:30 pm, the third round of judgement started. In the next day morning by 8:00 am final visit was made by judges, where all the participants showed their output and presented their complete work by power point presentation. The judges scrutinized the batches in 4 rounds so that they were able to select the best batch. After the 4 rounds students were waiting for the final result. The judgement was announced at 10:30 am by the judges. The winners of Hackathon PERI'18 were branched as inter and intra college.<br>**The Intra College Prize Winners:**<br><br>The TECHNOLOGIC crew from Sai Ram Engineering College won the first prize and the cash amount of Rs. 7500/- (Seven Thousand Five Hundred Rupees).<br>The ALMA crew won the second prize and the cash amount of Rs. 5000/- (Five Thousand Rupees)<br>The ZEROS crew from Anand Institute of Higher Technology won the third prize and the cash amount of Rs. 3000/- (Three Thousand Rupees).<br><br>**The Inter College Prize Winners:** |

Dr. R. PALSON KENNEDY, M.E., Ph.D.
PRINCIPAL
PERI INSTITUTE OF TECHNOLOGY
Mannivakkam, Chennai - 600 048.

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| | The ELONS crew from the mechanical department of PERRIT has won the first prize and the cash amount of Rs. 5000/- (Five Thousand Rupees).<br>The ENGINEERING DUDES crew from the ECE department of PERRIT has won the second prize and the cash amount of Rs. 2000/- (Two Thousand Rupees).<br>The DROUGHT HUNTER SQUAD crew from the ECE department of PERRIT has won the third prize and the cash amount of Rs. 1000/- (One Thousand Rupees).<br>The judges motivated participants in all the possible ways.Thus the program came to an end with the vote of thanks at 12:00 pm by Mr. K. Kannadasan who thanked the Chairman Mr. Saravana Periyasamy, and Chief Operating Officer, Mr. Sasi Veerajan, the principal Mr. R. Palson Kennedy, all the judges who came and supported all the students, the HOD of ECE department Dr. P.R. Jasmine Jeni and also he thanked the event organizer Mr. Lakshmi Narayan for organizing such a best event.Finally Mr.K.Kannadasan delivered the vote of thanks |
| **Feedback of the Resource Person** | Mr.Thomas Lenoid thanked all the students for showing involvement in this Hackfest. He also gave a special thanks to all the ECE department faculty members without whom this could not be a grand success for giving their support whenever and wherever needed |
| **Outcome of the Event** | Enhanced the knowledge in the field of **"HACKATHON 18"** |

**Students assembled in Beta Auditorium for Inauguration**

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PRINCIPAL
PERI INSTITUTE OF TECHNOLOGY
Mannivakkam, Chennai - 600 048.

:

**Participation of students from various colleges Hackathon'18**



Dr. R. PALSON KENNEDY, M.E., Ph.D.,
PRINCIPAL
PERI INSTITUTE OF TECHNOLOGY
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# PERI

**INSTITUTE OF TECHNOLOGY**

**(Affiliated to AICTE and Anna University)**

**Department of Computer Science and Engineering**

Department of Computer Science and Engineering of PERI Institute of Technology conducted a National Level Online **Quiz** competition titled **"Mind Freak with JAVA"** on 10th June 2020 for all the faculties, students and research scholars who belong to the Department of Computer Science and Engineering and Department of Information Technology.

The objective of the event is to encourage the students from various institutions and make use of this COVID-19 pandemic period in a meaningful way. Around 452 participants parttook from various institutions and organizations of different states. Of them, 80% of the participants were students. The questions were entirely focused on recollecting the key points in Java. And also, they helped the participants to gain knowledge in programming part.

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E-Certificate were issued to all the active participants. PERI Education encourages such online events to bring out the best in all students.

**Event Report:**

| | |
|---|---|
| Date of Event | : 10.06.2020 (Wednesday) |
| Time Organized | : 08.00 a.m. to 08.00 p.m. |
| Mode of Event | : Online (Google Form) |
| No of Participants | : 452 |
| Instutituion Participated | : 101 |

Dr. R. PALSON KENNEDY, M.E., Ph.D.,
PRINCIPAL
PERI INSTITUTE OF TECHNOLOGY
Mannivakkam, Chennai - 600 048.

PERI
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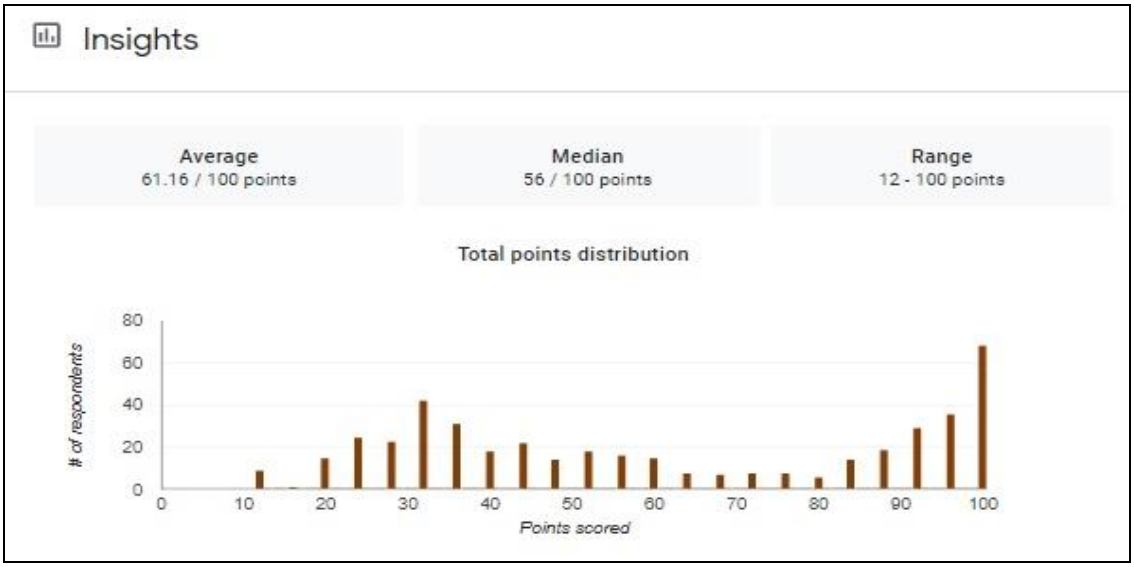
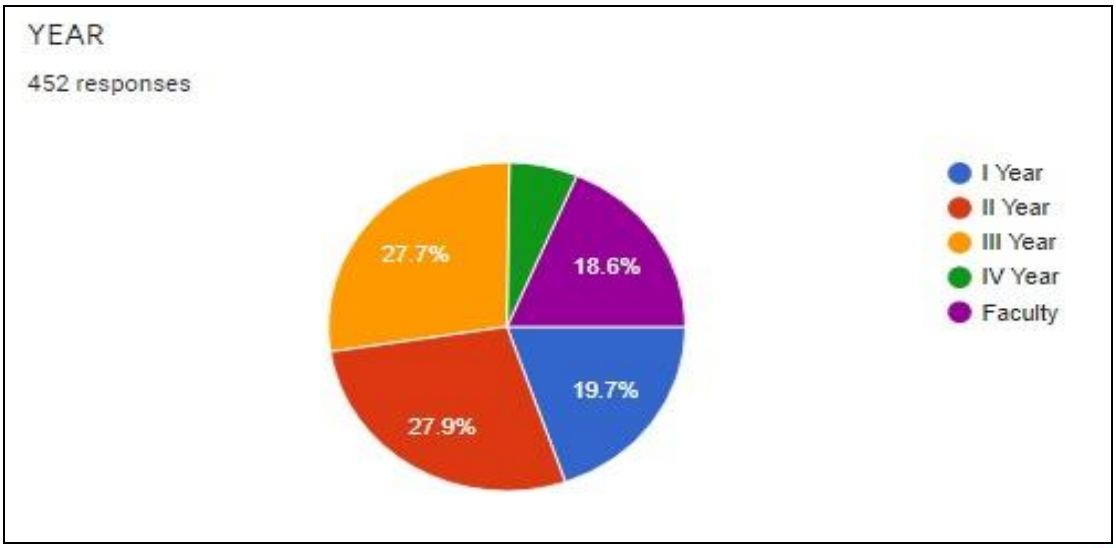
INSTITUTE OF TECHNOLOGY
Department Of
Computer Science and Engineering
Organizes
MIND FREAK
WITH
JAVA
A QUIZ CONTEST
DATE & TIME
10 June 2020 8AM to 8PM
REGISTRATION LINK
https://forms.gle/TJcrYXQGrBjXCpoGA
E-CERTIFICATE WILL BE PROVIDED

## POINTS DISTRIBUTION




Dr. R. PALSON KENNEDY, M.E., Ph.D.
PRINCIPAL
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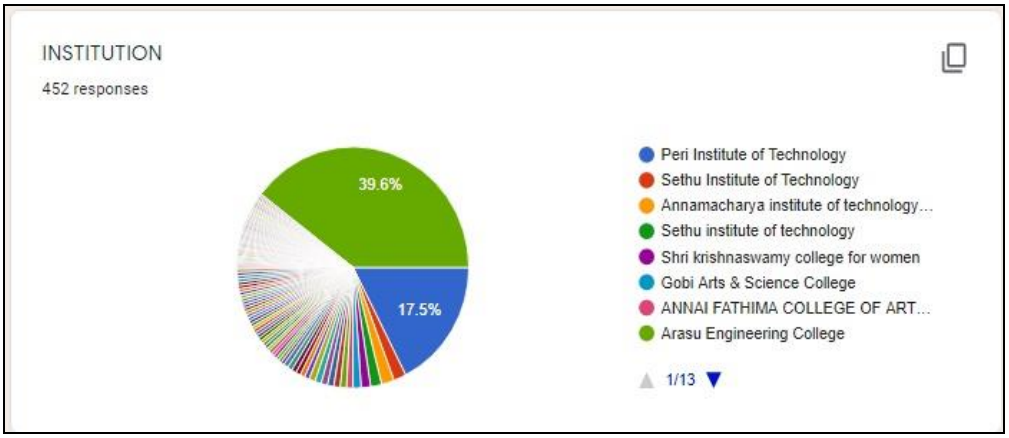


Shri Krishnaswamy college for women
Gobi arts and science college
Shri Krishnaswamy college for women
Shri krishnaswamy college for women
Annamacharya institute of technology...
The American College
Arasu engineering college
Gobi arts and science college

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Sreenivasa Institute of Technology an...
The American College
Annamacharya institute of technology...
Jeppiaar institute of technology
SWAMI DAYANANDA COLLEGE OF...
MUTHURANGAM GOVT.ARTS COLL...
VCET
SRM

3/13

SETHU INSTITUTE OF TECHNOLOGY
Velalar college of engineering and tec...
Sethu institute of technology
The American college
A.V.C POLYTECHNIC COLLEGE
GOBI ARTS & SCIENCE COLLEGE
Muthurangam Government Arts college
Senthamarai college of arts and science

4/13

Saranathan College of Engineering
Jerusalem college of engineering
Annamacharya institute of technology...
Karpagam academy of higher education
Andhra Loyola Institute of Engineerin...
Annai Fathima College of Arts and Sci...
Sethu Institute of technology
Sethu Institute Of Technology

5/13

Annamacharya institute of technology...
Swami dayananda college of arts and...
Gobi Arts and Science College
Vivekanandha college of engineering f...
Rsr engineering college
Sreenivasa Institute of Technology an...
MGAC
ANNAI FATHIMA COLLEGE OF ART...

6/13

The American college
Annamacharya institute of technology...
BIHER
Muthurangam Government Arts Colle...
Panimalar institute of technology
Annamacharya institute of science an...
The American Colledge madurai
XAVIER Matric Hr. Sec. School

7/13

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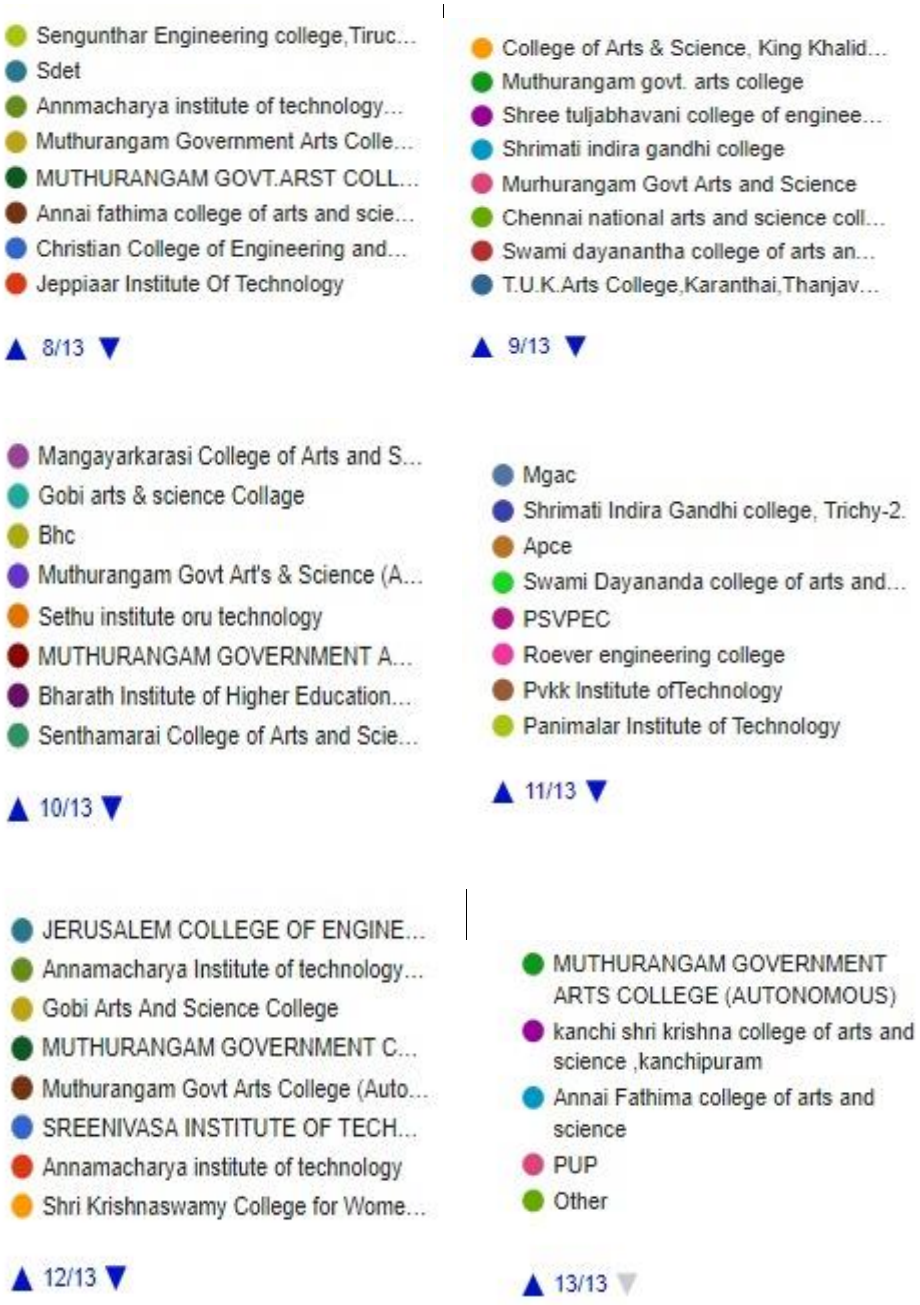
PRINCIPAL
PERI INSTITUTE OF TECHNOLOGY
Mannivakkam, Chennai - 600 048.




SAMPLE QUESTIONS

1. What is the significance of using instanceOf operator and getClass() in equals method? *

- Instance Of can return true for comparing current class with its subclass as well
- getClass() can return true only if exactly same class is compared
- getClass() can return false when compared with subclass
- All of the above

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3. What will be the output of following piece of code? *

```
public class operatorExample
{
        public static void main(String args[])
        {
                int x=4;
                System.out.println(x++);
        }
}
```

- ○ 0
- ○ 6
- ○ 5
- ○ 4

PERI EDUCATION

PERI INSTITUTE OF TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

## ONLINE QUIZ CONTEST

CERTIFICATE OF PARTICIPATION

THIS IS TO CERTIFY THAT Mr./Ms./Dr. << NAME >>

OF << COLLEGE>> HAS

PARTICIPATED IN ONLINE QUIZ CONTEST "MIND FREAK WITH JAVA" ORGANIZED BY THE DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING, PERI INSTITUTE OF TECHNOLOGY ON 10.06.2020

CONGRATULATIONS!! KEEP PARTICIPATING!!

S.Vinita
COORDINATOR

VICE PRINCIPAL

PRINCIPAL

Dr. R. PALSON KENNEDY, M.E., Ph.D.
PRINCIPAL
PERI INSTITUTE OF TECHNOLOGY
Mannivakkam, Chennai - 600 048