

DATE: 17/10/2020

**Event Coordinator(s)**

1. Prof. Tejal Deshpande
2. Prof. Kunal meher

**Student Coordinator(s)**

1. -
- 2.-

**Time & Place:**

17<sup>th</sup> October,2020

9am to 10:15am

Platform: Online (Zoom)

**Department:**

EXTC,COMPUTER

**No of participants:**

**89**

**Mr. Mohammed Mazhar. I. Malagi**, Assistant Professor, Anjuman-I-Islam's Kalsekar Technical Campus, New Panvel delivered a Guest lecture on "**Present and Future Microprocessors**" on Saturday 17<sup>th</sup> Oct, 2020 for Third Year students of the Department of Electronics & Telecommunication and Computer Engineering

Because of COVID-19 pandemic situation the guest lecture was conducted on Zoom online platform.

89 participants from T.E(EXTC,Comps) attended the session. Some of the important topics covered were Advances in processor manufacturing, Advances in processor architecture, Quantum computing etc

The participants found it very informative and well organized. They look forward for more sessions on Quantum Computing

Signing Authority  
Name and Designation

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Name and Designation

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Name and Designation

**Feedback from Participants:**

The session was great and interesting.

It was helpful learnt something new

Very helpful. Thank you.

great level of communication. Thank you

Session was great 👍

Very Interesting and Awesome session.

interesting session

Lecture was interesting but want to know more about this topic

More sessions on Quantum Computing

Good session

Informative

The screenshot shows a Zoom meeting interface. The main content is a slide titled "Quantum Computing" with a quote from Bill Gates: "That's the one part of Microsoft where they put up slides that I truly do not understand. I know a lot of physics and a lot of math. But the one place where they put up slides and it is hieroglyphics, it's quantum". A circular inset image of Bill Gates is shown. The bottom of the slide is labeled "Bill Gates, Founder Microsoft". On the right side, there is a list of participants: Mohammed Mazh..., Tejal Deshpande, Kunal Meher, and Comp\_46\_Mahe... The Zoom control bar at the bottom includes buttons for Unmute, Start Video, Security, Participants (89), Chat (3), Share Screen, Record, Reactions, and a Leave button.

Recording You are viewing Mohammed Mazhar mazhar.malagi@... 's screen View Options View

# ADVANCES IN PROCESSOR ARCHITECTURE

## RISC

The diagram illustrates the RISC processor architecture. It is divided into four main stages: **Inst. Fetch**, **Inst. Decode**, **Execute**, and **Memory**. The **Controller** is connected to the **PC** (Program Counter) and the **Inst. Memory**. The **Inst. Memory** feeds into the **Register File**. The **Register File** feeds into the **ALU**. The **ALU** feeds into the **Data Memory**. The **Data Memory** feeds back into the **Register File** via the **Write Back** path. The **Controller** also feeds into the **Write Back** path.

Participants (80)

Find a participant

- TD Tejal Desh... (Co-host, me)
- KM Kunal Meher (Host)
- MM Mohamme... (Co-host)
- Aiit Georae

yes no go slowego faster more clear all

Invite Mute All

Comp\_68\_Ayesha

Unmute Start Video Security Participants 80 Chat 3 Share Screen Record Reactions Leave

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Recording

## e-beam

The diagram shows the components of an e-beam lithography system. **(a) Side view** shows the **electron beam source** at the top, followed by the **1<sup>st</sup> condense lens**, **beam blaker**, **2<sup>nd</sup> condense lens**, **aperture**, **deflector**, **final condense lens**, **resist**, and **substrate**. The **electron beam** is shown passing through the lenses and aperture. **(b) Top view** shows the **exposed pattern** on the resist, which is the letters "CU".

- X-ray
- Extreme UV

Participants 79 Chat 3 Share Screen Record Reactions Leave

## MCQ Test

1) 8086 Microprocessor \_\_\_\_\_ number of transistors with \_\_\_\_\_ nm Technology

a) >29000 transistors, 3000nm (A)

b) >3098 transistors, 10000nm

c) >3.1M transistors, 800nm

d) >5.5M transistors, 500nm

2) What is Lithography?

a) Process used to transfer a pattern to a layer on the chip (A)

b) Process used to develop an oxidation layer on the chip

c) Process used to develop a metal layer on the chip

d) Process used to produce the chip

3) Silicon oxide is patterned on a substrate using \_\_\_\_\_

a) Physical lithography

b) Photolithography (A)

c) Chemical lithography

d) Mechanical lithography

4) Which of the following statements is not true?

a) X-ray and Electron beam lithography techniques produce device dimensions down to submicron range.

b) Ultraviolet lithography has limitations due to diffraction effects of wavelength.

c) The cost of X-ray or Electron beam is less compared to Ultraviolet photolithography. (A)

d) The exposure time is less in Ultraviolet compared to X-ray or Electron beam lithography.

5) The stage in which the CPU fetches the instructions from the instruction cache in superscalar organization is

a) Prefetch stage (A)

b) D1 (first decode) stage

c) D2 (second decode) stage

d) Final stage

6) In the execution stage the function performed is

- a) CPU accesses data cache
- b) executes arithmetic/logic computations
- c) executes floating point operations in execution unit
- d) all of the mentioned (A)

7) Which of the following makes Qubit different than a classical bit?

- a) Superposition of states
- b) Entanglement
- c) Both of the above (A)

8) A Qubit can be in \_\_\_\_\_ of both the states at the same time

- a) Entanglement
- b) Superposition (A)

9) A Qubit is a \_\_\_\_\_ quantum mechanical system

- a) 2-state (A)
- b) 3-state
- c) 4-state

10) \_\_\_\_\_ sphere is a representation of a qubit, the fundamental building block of quantum computers

- a) Bloch (A)
- b) Hilbert
- c) Hermitian

# Points Scored in MCQ

**Average**  
15.17 / 20 points

**Median**  
16 / 20 points

**Range**  
2 - 20 points

Total points distribution

