

FACULTY ENHANCEMENT PROGRAMME

 **Naipunnya**®

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Date of event: 3/11/2022

Faculty In-charge: Ms. Midhula Sekhar



Pongam, Koratty East, Thirissur District, Kerala State, India. Pin-680308.

Phone +91 9605001987, 04802730340, 2730341, 2733573

www.naipunnya.ac.in, mail@naipunnya.ac.in

REPORT

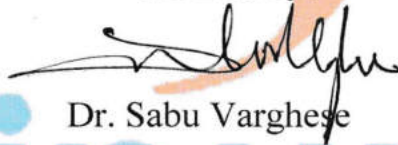
The Faculty Enhancement Program for the month of November was conducted on 3/11/2022, Thursday at 3:15 PM at Seminar Hall, Main Block. Ms. Asha V. of the Department of Languages presented her paper entitled "Introduction to Quantum Computer". Forty-four faculty members from various departments attended the program. Dr. Joy Joseph Puthussery, Dr. Sabu Varghese, Dr. Sarika, Mr. Deepak and Ms. Saritha raised queries and made the session more interactive. The program concluded at 4:00 PM with a thanks note by Ms. Midhula Sekhar, FEP Co-ordinator.

Prepared by:



Ms. Midhula Sekhar
(Faculty In – charge)

Verified by:



Dr. Sabu Varghese
(Director, IT/HRD Cell)

Approved by:



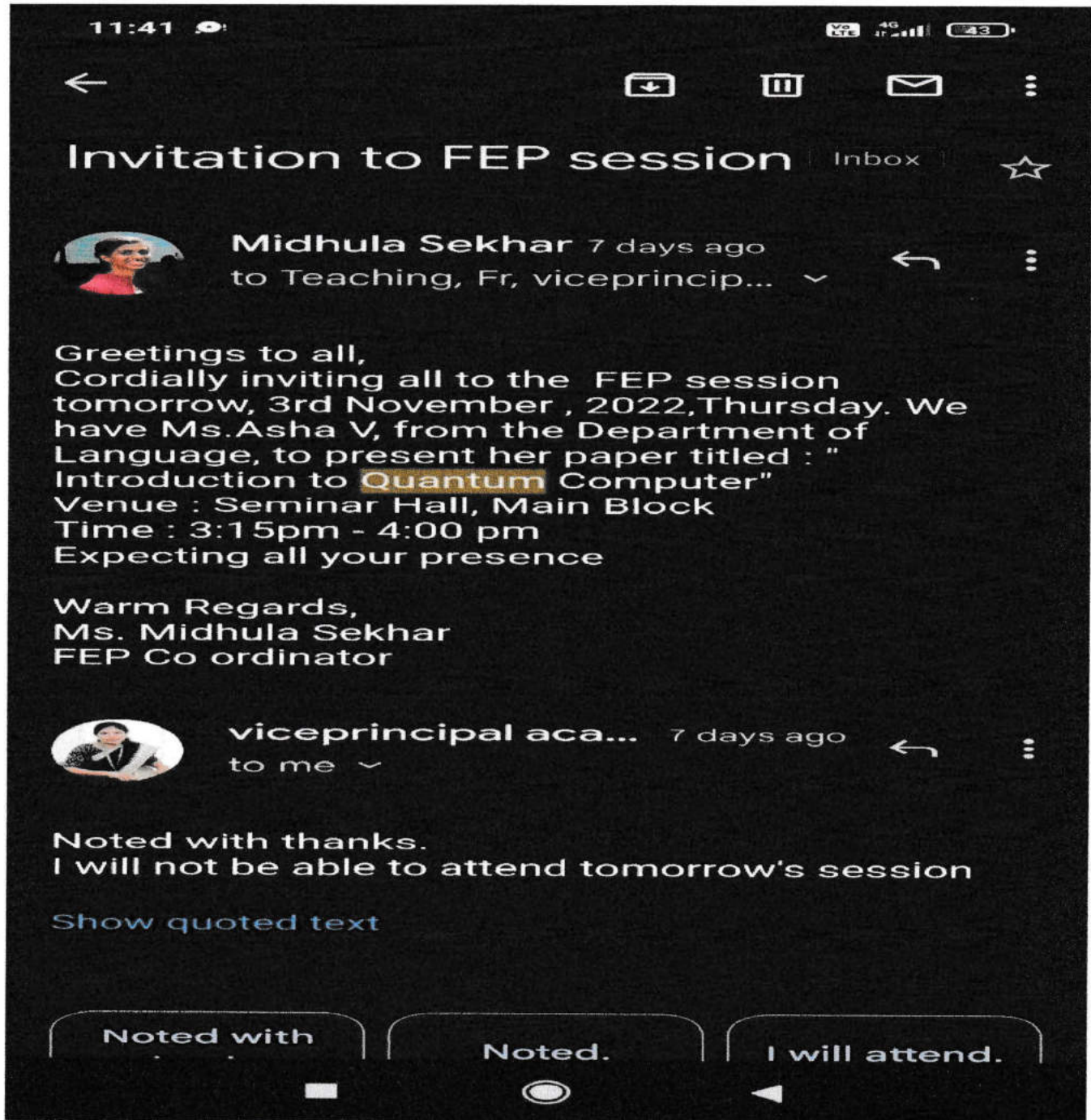
Rev. Fr. Dr. Paulachan K J
(Principal)

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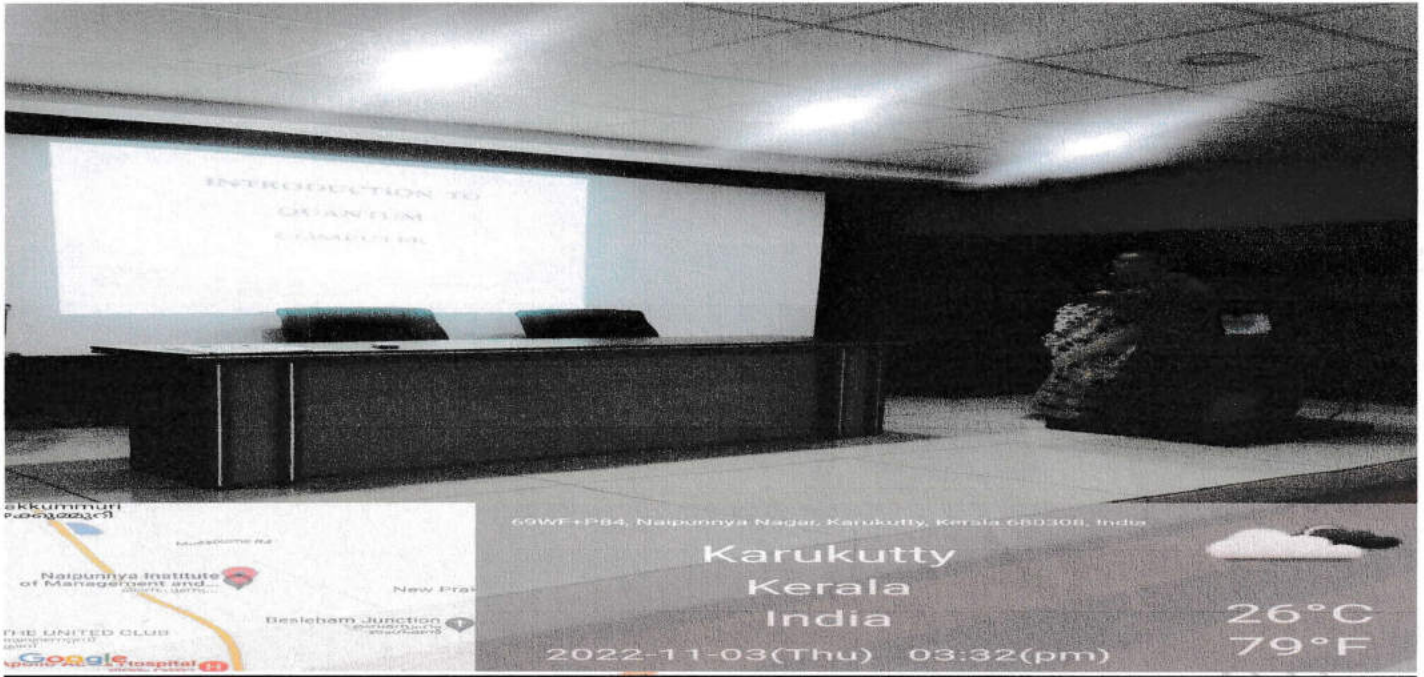
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PHOTOGRAPHS /SCREENSHOTS



PARTICIPANT'S LIST

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FACULTY ENHANCEMENT PROGRAMME

Date: 3/11/2022

TOPIC : Introduction to Quantum Computer

PRESENTER : MS. Asha V

PARTICIPANTS

SIGNATURE

1. Sabu Varghese	[Signature]
2. Jayaraman	[Signature]
3. Tony V.M	[Signature]
4. Jithin Sreedhar	[Signature]
5. Ms. Noble Devassy	[Signature]
6. John Kizhakkandil	[Signature]
7. Dr. Antony George	[Signature]
8. Elessa Jose	[Signature]
9. Agnes Bineta Daulva	[Signature]
10. Anna Binny	[Signature]
11. DR SONIA S	[Signature]
12. ANJU V.R	[Signature]
13. Eva Benny	[Signature]
14. Dr. Teresa Paulose	[Signature]
15. Vandana CH	[Signature]
16. Rejitha K. Ravi	[Signature]
17. Gugy Johnson	[Signature]
18. Sabu Varghese	[Signature]
19. Rajam P.P	[Signature]
20. Reetu Thomas	[Signature]
21. Dr. Jose Paulose	[Signature]
22. Dhanash T.M	[Signature]
23. Nayana Paul	[Signature]
24. Reshmi Fernandez	[Signature]
25. Julin Mary Jacob	[Signature]
26. Varghese Paul	[Signature]
27. Shanmughadas K.G	[Signature]

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28.	Anne Sebastian	A
29.	J. Sebastian	A
30.	Amu Rahim	A
31.	Fredy Varghese	A
32.	Stinphy Maxon	A
33.	Livia P Wilson	A
34.	B Sarithadevi S	A
35.	Sivi Jose	A
36.	Reeta Babu.	A
37.	Rerathy AR	A
38.	Dr Ann Mary Jones	A
39.	Dr Jersey Antony	A
40.	Ms. Jenev Antony	A
41.	Jissmel Varghes	A
42.	Rinku	A
43.	RoseLani	A
44.	Kanishka Praga	A
45.	Shajitha T. B	A
46.	Midhula Sekhar	A

INTRODUCTION TO QUANTUM COMPUTER

Before explaining Quantum computers, we need to give a brief explanation about classical computers. All of you know very well about Classical computers. Growth of Classical computers mainly depends on the growth of Technology. Classical computers are classified according to the technology Used.

Evolution of computer

SLNO GENERATION Technology used 1 First Generation Vacuum Tubes -Based 2 Second Generation Transistor -Based 3 Third Generation IC -Based 4 Fourth Generation Microprocessor -Based 5 Fift Generation Artificial intelligence- Based

GROWTH OF COMPUTER PROCESSOR

Technology of Integrated Circuits grows very fast. As per Gordon Moore (Co-Founder INTEL). The number of transistors on a microchip doubles every two years. This is known as Moore's Law.

QUANTUM

A quantum (plural: quanta) is the smallest discrete unit of a phenomenon. For example, a quantum of light is a photon, and a quantum of electricity is an electron. Quantum comes from Latin, meaning "an amount" or "how much?" If something is quantifiable, then it can be measured.

QUANTUM COMPUTER

Data processing needs to be very fast and accurate. In the computer world now we are moving towards Quantum computers. Quantum computing is a type of computation whose operations can harness the phenomena of quantum mechanics, such as superposition, interference, and entanglement. Devices that perform quantum computations are known as quantum computers.

Quantum computers process information in a fundamentally different way to classical computers. Instead of relying on transistors — which can only represent either the “1” or the “0” of binary information at a single time — quantum computers use qubits, which can represent both 0 and 1 simultaneously.

BITS and QUBITS A classical binary bit can only represent a single binary value, such as 0 or 1 whereas a qubit uses the quantum mechanical phenomena of superposition to achieve a linear combination of two states

Quantum computers Quantum mechanical phenomena □ Entanglement □ Superposition

Entanglement

Quantum entanglement is when two particles link together in a certain way no matter how far apart they are in space. Their state remains the same.

Quantum Superposition

An electron has a dual nature. It can exhibit as a particle and also as a wave. Wave exhibits a phenomenon known as Superposition of waves

Nowadays IBM, Google, Intel invented Quantum computer.

Advantage of Quantum computer

More powerful could process massive data Faster Process data in much faster speed Improvement to science to convey more actual results Parallel processing Ultra-Secure and Super-dense communication

The Nobel Prize in physics for 2022 was awarded to John F. Clauser, Alain Aspect and Anton Zeilinger for their work in Quantum mechanics. The field of quantum computing is growing rapidly as many of today's leading computing groups, universities, colleges, and all the leading IT vendors are researching the topic. This pace is expected to increase as more research is turned into practical applications. Although practical machines lie years in the future, this formerly fanciful idea is gaining plausibility.