**Criteria adopted for shortlisting PhD applications**

**(Regular, Part-time, Direct and ERP)**

**Area of Research: Microelectronics and VLSI Design**

* **Regular PhD Criteria:**

1. **As per advertisement**
2. **1st and 2nd preference for PhD specialization as Microelectronics/VLSI or equivalent**

**In the case of B.Tech. degree only:**

1. **As per advertisement**
2. **Valid GATE score for candidate other than IITs**

**5. 1st and 2nd preference for PhD specialization as Microelectronics/VLSI or equivalent**

* **ERP Criteria:**

1. **Minimum 2 years of work experience**

**2. As per advertisement**

**3. 1st and 2nd preference for PhD specialization as Microelectronics/VLSI or equivalent**

* **Part-time PhD Criteria:**

**1. Minimum 2 years of work experience**

**2. As per advertisement**

**3. 1st and 2ndpreference for PhD specialization as Microelectronics/VLSI or equivalent**

* **Direct-PhD Criteria:**

**1. As per advertisement**

**2. Valid GATE score for candidate other than IITs**

**3. 1st and 2ndpreference for PhD specialization as Microelectronics/VLSI or equivalent**

* **Mode of examination = Written test AND/OR Personal interview**

**(Syllabus for written/personal interview examination given in ANNEXURE V)**

* **Date of examination = 11 May 2018 (reserved day: 12 May 2018)**

**List of Regular PhD candidates: for area of research Microelectronics and VLSI Design**

|  |  |  |
| --- | --- | --- |
| **Sr. no.** | **SID** | **Full name** |
| **1** | **23359** | **Syamuel John Jupilli** |
| **2** | **23609** | **MAYANK KUMAR SINGH** |
| **3** | **23676** | **PRIYA KAUSHAL** |
| **4** | **23698** | **DivyaKhanure** |
| **5** | **23723** | **Chetali Yadav** |
| **6** | **23727** | **SHERIN A THOMAS** |
| **7** | **23732** | **SATYENDRA KUMAR** |
| **8** | **23806** | **HIMADRI NIRJHAR MANDAL** |
| **9** | **23867** | **Sanjit Varma** |
| **10** | **23906** | **AGRADEEP SINGH** |
| **11** | **24018** | **SHAKTI SANGRAM BEHERA** |
| **12** | **24042** | **CHANDAN KUMAR** |
| **13** | **24320** | **RAVI ANKIT PURTY** |
| **14** | **24456** | **SMEETA HOTA** |
| **15** | **24472** | **SHARANJIT KAUR** |
| **16** | **24481** | **BISHWAJEET PATRA** |
| **17** | **24488** | **Payali Das** |
| **18** | **24505** | **VIKAS KUMAR** |
| **19** | **24599** | **ANDE BHARGAV** |
| **20** | **24689** | **RAGHVENDRA SINGH** |
| **21** | **24843** | **PRIYESH KUMAR** |
| **22** | **24887** | **Mani Shankar Yadav** |
| **23** | **24927** | **SAPNA SINGH** |
| **24** | **24995** | **Sushantabiswasarma** |
| **25** | **25090** | **ShailzaKaundal** |
| **26** | **25326** | **KABITA KUMARI** |
| **27** | **25353** | **Ashok Kumar Gupta** |
| **28** | **25667** | **Mayanksharma** |
| **29** | **25726** | **ABHIRUP TAH** |
| **30** | **25739** | **Gaurav Verma** |
| **31** | **25800** | **Sumreti Gupta** |
| **32** | **25831** | **Bhawana Sinha** |
| **33** | **25957** | **SUBRATO ROUSHAN** |
| **34** | **25960** | **Meghadixit** |
| **35** | **26063** | **Shah Zahid Yousuf** |
| **36** | **26072** | **Abhishek Ananda** |
| **37** | **26152** | **MANDEEP SINGH** |
| **38** | **26153** | **WILFRED KISKU** |
| **39** | **26235** | **DEEP SINGH** |
| **40** | **26363** | **HARSIMRAN KAUR** |
| **41** | **26465** | **JEGYASU** |
| **42** | **26506** | **GARIMA THAKUR** |
| **43** | **26796** | **SHAILENDRA YADAV** |
| **44** | **26849** | **NANDIT KAUSHIK** |
| **45** | **27291** | **Pavneet Kaur Bhatia** |
| **46** | **27408** | **RANDHIR KUMAR SAH** |
| **47** | **27681** | **Deepmala Trivedi** |
| **48** | **27706** | **Akshita Gupta** |
| **49** | **27723** | **KAMAL KUMAR GAUR** |
| **50** | **27777** | **MD SADULLAH** |
| **51** | **27838** | **T SWAPNA RANI** |
| **52** | **27883** | **AMRITA DAS** |
| **53** | **27885** | **VARUN KUMAR** |
| **54** | **27953** | **AMIT MONGA** |
| **55** | **28019** | **ANKIT GAURAV** |
| **56** | **28038** | **ANANDA KUMARI** |
| **57** | **28051** | **INDRA BHOOSHAN SHARMA** |
| **58** | **28053** | **Ankush** |
| **59** | **28054** | **ASHUDEEP** |
| **60** | **28141** | **VIVEK KAUSHAL** |
| **61** | **28149** | **TUFAIL AHMAD LONE** |
| **62** | **28187** | **SACHIN RAHI** |
| **63** | **28198** | **AMIT KUMAR BEHERA** |
| **64** | **28210** | **ANIL LODHI** |
| **65** | **28217** | **Aishik Das** |
| **66** | **28219** | **MASOOD AHMAD MALIK** |
| **67** | **28254** | **DEEPAK KUMAR** |
| **68** | **28294** | **MADHU RAJ KUMAR** |
| **69** | **28316** | **KUMAR MOHIT** |
| **70** | **28387** | **DIWANKSHI SHARMA** |
| **71** | **28402** | **TULIKA CHAWLA** |
| **72** | **28432** | **TARUN KUMAR** |
| **73** | **28539** | **THOOL ASMITA SANJAYRAO** |
| **74** | **28667** | **SHAREEF BENGALATH** |
| **75** | **28689** | **RAUSHAN KUMAR** |
| **76** | **28702** | **NAJA MU SAQIB** |
| **77** | **28716** | **Sahibiakaur Vohra** |
| **78** | **28720** | **LAXMI** |
| **79** | **28727** | **NIBIN RAJ** |
| **80** | **28763** | **PUNEET SINGH** |
| **81** | **28905** | **MUKTASHA MAJI** |
| **82** | **28970** | **Kundan Kumar Mishra** |
| **83** | **28988** | **Rigvendra Kumar Vardhan** |
| **84** | **29009** | **Neha Gupta** |
| **85** | **29033** | **DeekshaRathore** |
| **86** | **29047** | **SUDHANSU RANJAN DWIBEDI** |
| **87** | **29059** | **GAURAV KUMAR** |
| **88** | **29075** | **DEVI RUPA SAHA** |
| **89** | **29155** | **Ankita Sarkar** |
| **90** | **29213** | **UMAYIA MUSHTAQ** |
| **91** | **29215** | **SUSHMITA JAISWAL** |
| **92** | **29223** | **SameekshaMunjal** |
| **93** | **29235** | **Vishakha Thakur** |
| **94** | **29241** | **Dikshathakur** |
| **95** | **29268** | **ROHIT KUMAR NIRALA** |
| **96** | **29290** | **RAJESH KUMAR JENA** |
| **97** | **29346** | **Priyankanautiyal** |
| **98** | **29557** | **Sakshisaini** |
| **99** | **29590** | **Chandrabhan Patel** |
| **100** | **29594** | **ABHISHEK KUMAR SAXENA** |
| **101** | **29602** | **MITHILESH KUMAR** |
| **102** | **29603** | **MAYANK KUMAR SINGH** |
| **103** | **29620** | **FarhaNaazMansoorie** |
| **104** | **29669** | **CHHAVI TOMAR** |
| **105** | **29670** | **ASHUTOSH KUMAR YADAV** |
| **106** | **29733** | **KUMARI KANAK LATA** |
| **107** | **29749** | **Sukhdev Singh** |
| **108** | **29794** | **SWAGAT KUMAR PANDA** |
| **109** | **29802** | **MOHMAD AASIF BHAT** |
| **110** | **29826** | **RANU** |
| **111** | **29836** | **Tusha Tanya** |
| **112** | **29847** | **Parmita Roy** |
| **113** | **29879** | **VYAWHARE SAMATA GYANOBA RAO** |
| **114** | **29890** | **Akanksha Gupta** |
| **115** | **29971** | **ARUN KUMAR KORRA** |
| **116** | **29992** | **WajidManzoor** |
| **117** | **30003** | **AMIT DAS** |
| **118** | **30024** | **ARSHID NISAR LAWAY** |
| **119** | **30049** | **TULIKA BAJPAI** |
| **120** | **30050** | **LAVUDYA CHARAN** |
| **121** | **30059** | **NITIKA SHARMA** |
| **122** | **23508** | **JYOTI MISHRA** |
| **123** | **24042** | **CHANDAN KUMAR** |
| **124** | **24325** | **SAKSHI** |
| **125** | **25188** | **ANIRBAN CHATTERJEE** |
| **126** | **25326** | **KABITA KUMARI** |
| **127** | **25835** | **NEHA** |
| **128** | **26001** | **BASANT** |
| **129** | **27723** | **KAMAL KUMAR GAUR** |
| **130** | **28236** | **GJNV Mani Chandra** |
| **131** | **28494** | **VIVEK KUMAR** |
| **132** | **28652** | **MOHAMMAD SAJID** |
| **133** | **28723** | **ASHISH RANJAN** |
| **134** | **28727** | **NIBIN RAJ** |
| **135** | **28832** | **BIKRAM SINGH** |
| **136** | **28850** | **SWETA SARITA SARANGI** |
| **137** | **29213** | **UMAYIA MUSHTAQ** |
| **138** | **29346** | **Priyankanautiyal** |
| **139** | **29544** | **SHALINI SHARMA** |
| **140** | **29560** | **SYED ZAINAB ALTAF** |
| **141** | **29568** | **NIDHI AGARWAL** |
| **142** | **29740** | **MADHURAM MISHRA** |
| **143** | **29824** | **DHIRAJ KUMAR** |

**List of Part-time PhD candidate: for area of research Microelectronics and VLSI Design**

|  |  |  |
| --- | --- | --- |
| **Sr. no.** | **SID** | **Full name** |
| **1** | **24471** | **Rajesh Thumma** |
| **2** | **24695** | **VAIBHAV** |
| **3** | **26395** | **Prachi Agarwal** |
| **4** | **28403** | **Pooja Lakhwani** |
| **5** | **28576** | **PARTHASARATHY** |
| **6** | **29303** | **Nishukansal** |

**List of Direct PhD candidate: for area of research Microelectronics and VLSI Design**

|  |  |  |
| --- | --- | --- |
| **Sr. no.** | **SID** | **Full name** |
| **1** | **27923** | **NIDHI** |

**Note:**

**# Any applicant who satisfies the above mentioned criteria, but his/her name is not in the list can also appear for written and/or personal interview on mentioned dates.**

**ANNEXURE V**

**Tentative Syllabus of PhD written and/or oral examination: for area of research**

**Microelectronics and VLSI Design**

**Section 1: Networks, Signals and Systems**

**Network solution methods: nodal and mesh analysis; Network theorems: superposition, Thevenin and Norton’s, maximum power transfer; Wye‐Delta transformation; Steady state sinusoidal analysis using phasors; Time domain analysis of simple linear circuits; Solution of network equations using Laplace transform; Frequency domain analysis of RLC circuits; Linear 2‐port network parameters: driving point and transfer functions; State equations for networks.**

**Continuous-time signals: Fourier series and Fourier transform representations, sampling theorem and applications; Discrete-time signals: discrete-time Fourier transform (DTFT), DFT, FFT, Z-transform, interpolation of discrete-time signals; LTI systems: definition and properties, causality, stability, impulse response, convolution, poles and zeros, parallel and cascade structure, frequency response, group delay, phase delay, digital filter design techniques.**

**Section 2: Electronic Devices**

**Energy bands in intrinsic and extrinsic silicon; Carrier transport: diffusion current, drift current, mobility and resistivity; Generation and recombination of carriers; Poisson and continuity equations; P-N junction, Zener diode, BJT, MOS capacitor, MOSFET, LED, photo diode and solar cell; Integrated circuit fabrication process: oxidation, diffusion, ion implantation, photolithography and twin-tub CMOS process.**

**Section 3: Analog Circuits**

**Small signal equivalent circuits of diodes, BJTs and MOSFETs; Simple diode circuits: clipping, clamping and rectifiers; Single-stage BJT and MOSFET amplifiers: biasing, bias stability, mid-frequency small signal analysis and frequency response; BJT and MOSFET amplifiers: multi-stage, differential, feedback, power and operational; Simple op-amp circuits; Active filters; Sinusoidal oscillators: criterion for oscillation, single-transistor and op- amp configurations; Function generators, wave-shaping circuits and 555 timers; Voltage reference circuits; Power supplies: ripple removal and regulation.**

**Section 4: Digital Circuits**

**Number systems; Combinatorial circuits: Boolean algebra, minimization of functions using Boolean identities and Karnaugh map, logic gates and their static CMOS implementations, arithmetic circuits, code converters, multiplexers, decoders and PLAs; Sequential circuits: latches and flip‐flops, counters, shift‐registers and finite state machines; Data converters: sample and hold circuits, ADCs and DACs; Semiconductor memories: ROM, SRAM, DRAM; 8-bit microprocessor (8085): architecture, programming, memory and I/O interfacing.**

**Section 5: Control Systems**

**Basic control system components; Feedback principle; Transfer function; Block diagram representation; Signal flow graph; Transient and steady-state analysis of LTI systems; Frequency response; Routh-Hurwitz and Nyquist stability criteria; Bode and root-locus plots; Lag, lead and lag-lead compensation; State variable model and solution of state equation of LTI systems.**

**Section 6: Electromagnetics**

**Elements of vector calculus: divergence and curl; Gauss' and Stokes' theorems, Maxwell's equations: differential and integral forms. Wave equation, Poynting vector. Plane waves: propagation through various media; reflection and refraction; phase and group velocity; skin depth. Transmission lines: characteristic impedance; impedance transformation; Smith chart; impedance matching; S parameters, pulse excitation.Waveguides: modes in rectangular waveguides; boundary conditions; cut-off frequencies; dispersion relations. Basics of propagation in dielectric waveguide and optical fibers. Basics of Antennas: Dipole antennas; radiation pattern; antenna gain.**