



**INDIAN INSTITUTE OF INFORMATION TECHNOLOGY
UNA [HP]**

An Institute of National Importance under MoE

Saloh, Una (HP) – 177 209

Website: www.iiitu.ac.in

Prof. A.N. GILL
REGISTRAR (i/c)

IIITU/Acad/Engg.-Assist./Manpower-requirement/ShortlistedCandidates/2022/393 25, July'22

**EXPRESSION OF INTEREST FOR THE POST OF
ENGINEERING ASSISTANT (ECE)**

Advt. Dated 29, June'22

PROVISIONALLY SHORTLISTED (PSL) CANDIDATES

Number of Applications Received : 19
Number of PSL Candidates : 06

S. No.	Application Id	Name of Candidate	Father Name
1.	3	Harisha Sharma	Shri. Prakash Sharma
2.	7	Yogesh Singh	Shri. Sudershan Singh
3.	12	Shilpa Devi	Shri. Bal Kishan
4.	17	Amit Sharma	Shri. Anirudh Sharma
5.	18	Sumit Sharma	Shri. Harish Chander Sharma
6.	19	Dakshika Sharma	Shri. Brij Sharma

WRITTEN TEST/INTERVIEW SCHEDULE

Date : 06, Aug.'22
Time : 10:30 hrs.
Venue : Senate Room, IIIT Una
Saloh, Una -177209
Certificate Verification : 10:00 hrs.

Note:

- All the candidates are advised to present themselves for certificate verification at 10:00 hrs. They have to bring the original hard copy of the marksheets/certificates. Photocopies in mobile phone will not be accepted.
- The written test/interview date and time cannot be changed under any circumstances.

REGISTRAR

Aman Nath Gill
25.07.22

Application Processing Fee and Payment Procedure for the Shortlisted Candidates

A. Application Processing Fee is Rs.500/- only.

B. Step by Step Payment Procedure using State Bank Collect:

1. Go to www.onlinesbi.com and select option State Bank Collect.
2. Click Accept terms and conditions and click Proceed further.
3. Select State of Corporate/Institute: Himachal Pradesh and Type of Corporate/Institute: Educational Institutions.
4. Select Educational Institutions Name: IITU and click on submit button.
5. Select payment category: 'RECRUITMENT FEES' and fill the details to proceed further.
6. After filling the Form, pay the amount of Rs. 500/- and save a copy or take a print of the 'Proof Payment'.
7. Bring Proof of payment at the time of Written Test/Interview.

Note: Last Date of Fee Payment for the Shortlisted Candidates is 05, Aug.'22.

Engineering Assistant Exam Syllabus

Signals and Systems:

Discrete-time signals: DTFT, DFT, z-transform, discrete-time processing of continuous-time signals. LTI systems: definition and properties, causality, stability, impulse response, convolution, poles and zeroes, frequency response, group delay, phase delay.

Continuous-time signals: Fourier series and Fourier transform, sampling theorem and applications.

Communication Systems:

Random processes: autocorrelation and power spectral density, properties of white noise, filtering of random signals through LTI systems.

Analog communications: amplitude modulation and demodulation, angle modulation and demodulation, spectra of AM and FM, super heterodyne receivers.

Information theory: entropy, mutual information and channel capacity theorem.

Digital communications: PCM, DPCM, digital modulation schemes (ASK, PSK, FSK, QAM), bandwidth, inter-symbol interference, MAP, ML detection, matched filter receiver, SNR and BER.

Fundamentals of error correction, Hamming codes, CRC.

Electronics Devices and Circuits:

Energy bands in intrinsic and extrinsic semiconductors, equilibrium carrier concentration, direct and indirect band-gap semiconductors.

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.

Digital Electronics:

Number representations: binary, integer and floating-point- numbers.

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.

Sequential circuits: latches and flip-flops, counters, shift-registers, finite state machines, propagation delay, setup and hold time, critical path delay.

Data converters: sample and hold circuits, ADCs and DACs.

Semiconductor memories: ROM, SRAM, DRAM.

Computer organization: Machine instructions and addressing modes, ALU, data-path and control unit, instruction pipelining.

MATLAB Programming:

Introduction to MATLAB: The MATLAB Environment, MATLAB Basics – Variables, Numbers, Operators, Expressions, Input and output, Vectors, Arrays – Matrices.

MATLAB Functions: Built-in Functions, User defined Functions.

Graphics with MATLAB: Files and File Management – Import/Export, Basic 2D, 3D plots, Graphic handling

Programming with MATLAB: Conditional Statements, Loop, MATLAB Programs – Programming and Debugging, Applications of MATLAB Programming.

Mathematical Computing with MATLAB: Algebraic equations, Basic Symbolic Calculus and Differential equations, Numerical Techniques and Transforms.