



INDIAN INSTITUTE OF INFORMATION
TECHNOLOGY, UNA [HP]

An Institute of National Importance under MHRD
NIT Campus, Hamirpur [HP]-177005

Website: www.iiitu.ac.in



IIITU/GF-CY-ProvList/2019 - 2360

01, Oct.'19

[Ref.: IIITU/Acad/AY-2019-20-Faculty Recruitment/2019 dated 30, Aug.'19]

Post Name: Guest Faculty in Chemistry

PROVISIONAL LIST OF ELIGIBLE CANDIDATES (REVISED)

Sr. No	Application No.	Name	Father Name
1.	IIITU-GF-CHE-01	Dr. Ashok Kumar	Sh. Om Prakash
2.	IIITU-GF-CHE-02	Dr. Dinesh Kumar	Sh. Vijay Dhar
3.	IIITU-GF-CHE-03	Dr. Himanshu	Sh. Ramesh Chand
4.	IIITU-GF-CHE-04	Dr. Mahesh Kancherla	Sh. Subbarao Kancherla
5.	IIITU-GF-CHE-05	Dr. Maninder Kaur	Sh. Harjit Singh
6.	IIITU-GF-CHE-06	Dr. Nisha Bayal	Sh. Mohan Lal Bayal
7.	IIITU-GF-CHE-07	Dr. Nishant Gautam	Lt. Sh. Naveen Chand Sharma
8.	IIITU-GF-CHE-08	Dr. Pooja Puri	Sh. Pawan Kumar Puri
9.	IIITU-GF-CHE-09	Dr. Praveen Kumar	Sh. Ramesh Chandra
10.	IIITU-GF-CHE-10	Dr. Priyanka	Sh. Ramesh Kumar Sharma
11.	IIITU-GF-CHE-11	Dr. Rakesh Kumar	Sh. Jagdish Chand
12.	IIITU-GF-CHE-12	Dr. Sanjay Adhikari	Sh. Madhusudhan Adhikari
13.	IIITU-GF-CHE-13	Dr. Sk Md Towsif Abtab	Sh. Sk Ansar Ali
14.	IIITU-GF-CHE-14	Dr. Shubhrajyotsna Bhardwaj	
15.	IIITU-GF-CHE-15	Dr. Sujit Sarkar	Sh. Gobinda Sarkar
16.	IIITU-GF-CHE-16	Dr. Sukriti	Sh. Suresh Kumar
17.	IIITU-GF-CHE-17	Dr. P. M. Vivek	Sh. P. S. Muralidharan
18.	IIITU-GF-CHE-18	Ms. Nabaruna Basu	Sh. Swapan Basu
19.	IIITU-GF-CHE-19	Ms. Richa Vinayak	Sh. Vijay Kumar
20.	IIITU-GF-CHE-20	Mr. Akash Kumar	Sh. Ramchandra Sahu
21.	IIITU-GF-CHE-21	Ms. Ayushi Sharma	Sh. Avinash Sharma
22.	IIITU-GF-CHE-22	Ms. Deepika Sharma	Sh. Dharm Chand

23.	IIITU-GF-CHE-23	Ms. Jyotika	Sh. Joginder Singh
24.	IIITU-GF-CHE-24	Mr. Kush Kaushik	Sh. Anil Kaushik
25.	IIITU-GF-CHE-25	Ms. Nidhi Sharma	Sh. Sanjeev Kumar
26.	IIITU-GF-CHE-26	Ms. Pooja Rajesh Suryavanshi	Sh. Rajesh Suryavanshi
27.	IIITU-GF-CHE-27	Mr. Ravinder Pal Singh	
28.	IIITU-GF-CHE-28	Ms. Sangeeta	Sh. Rajender Sahu
29.	IIITU-GF-CHE-29	Ms. Shivani Sharma	Sh. Ajay Sharma
30.	IIITU-GF-CHE-30	Mr. Sumit Tiwari	Sh. Jai Prakash Tiwari
31.	IIITU-GF-CHE-31	Ms. Taiba Rashid	Sh. Rashid Ali
32.	IIITU-GF-CHE-32	Ms. Diksha Dhiman	Sh. Madan Lal

A. The syllabus for written test is annexed.

The schedule for written test and interview is as follows:

Post	Date	Written Test	Interview
Guest Faculty	05, Oct.'19	10:00 AM	12:00 Noon

B. Instructions to candidates:

- The venue for Written test/ Interview will be at office of IIIT, Una, Transit Campus-II, Chandpur, Haroli, Una-177 220.
- No Separate hall ticket will be sent.
- Candidates appearing for Written test/ Interview should bring a Govt. issued Proof of Identity.
- No TA/DA will be given for attending the Selection process.
- Candidates are expected to be in the venue well ahead of the scheduled time.
- Advised to visit the website of the Institute www.iiitu.ac.in for updates on the selection process.

S. Selvakumar
DIRECTOR 01 10 19

Encl.: Syllabus for Written Test



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GUEST FACULTY (ON CONTRACT BASIS) RECRUITMENT – OCTOBER 2019

SYLLABUS FOR WALK IN WRITTEN TEST ON 05, Oct.'19

CHEMISTRY

ORGANIC CHEMISTRY

Reaction mechanism: Definition of reaction mechanism, transition state theory, kinetics, qualitative picture. Nucleophilic substitution: SN1, SN2, SNi. Aromatic nucleophilic substitution, SNAr, benzyne, SN1. Addition to carbon-carbon multiple bonds: Electrophilic, nucleophilic and free radical addition. Hydrogenation, halogenation, hydroxylation, hydroboration.

Elimination reactions: E1, E2, E1CB- mechanism, Oxidation and reduction: Theories of aromaticity Aromatic electrophilic substitution:

Fundamentals of photochemistry, Pericyclic reactions, electrocyclic, sigmatropic, cycloaddition and ene reactions, Woodward-Hoffmann rules, and FMO theory, Optical activity and chirality: absolute and relative configuration - R-S notation system, E, Z- nomenclature of olefins, Conformational analysis.

Rearrangement reactions: involving electron deficient, carbon, nitrogen, oxygen centers, Reagents in organic synthesis: and important name reactions

INORGANIC CHEMISTRY

Theories of coordination compounds - VB theory - CFT - splitting of d orbitals in ligand fields and different symmetries - CFSE -factors affecting the magnitude of $10 Dq$

Structure: Structure of coordination compounds with reference to the existence of various coordination numbers (2, 3, 4, 5 & 6) –site, coordination number seven and eight. 18/16-electron rule, metallocenes

Reaction mechanism and catalysis: Wilkinson's catalyst -hydroformylation of olefins - Wacker Smidt synthesis - Monsanto acetic acid process -Eastman Halcon process - Fischer-Tropsch process - hydrosilylation.

Types of solids - close packing of atoms and ions - bcc, fcc and hcp voids - Band theory of solids. Schottky and Frenkel defects Energy bands, insulators, semiconductors and conductors metals.

Contd. ... (2)

PHYSICAL CHEMISTRY

Thermodynamics: Laws of thermodynamics, chemical potential, Gibbs Duhem equation and its applications Phase rule, colloids and micelles: one and two component systems, eutectic systems colloids: Distinction between suspension, colloidal solutions and true solutions, lyophilic and lyophobic colloids, Tyndall effect, stability of colloids, coagulation, emulsions, various types.

Electrochemistry: Nernst equation-Some electrochemical reactions of technological interest - corrosion and passivity of metals - construction and use of Pourbaix and Evans diagrams - methods of protection of metals from corrosion,

Chemical kinetics- theories of reaction rates - transition state theory and collision theory a comparison - enthalpy, entropy and free energy of activation, Enzyme catalysis - rates of enzyme catalysed reactions - determination of Michael's parameters.

Surface chemistry: types of adsorption isotherms, physisorption and chemisorption, Freundlich, derivation of Langmuir and BET isotherms, surface area determination and mechanism of heterogeneous catalysis, phase transfer catalysis.
