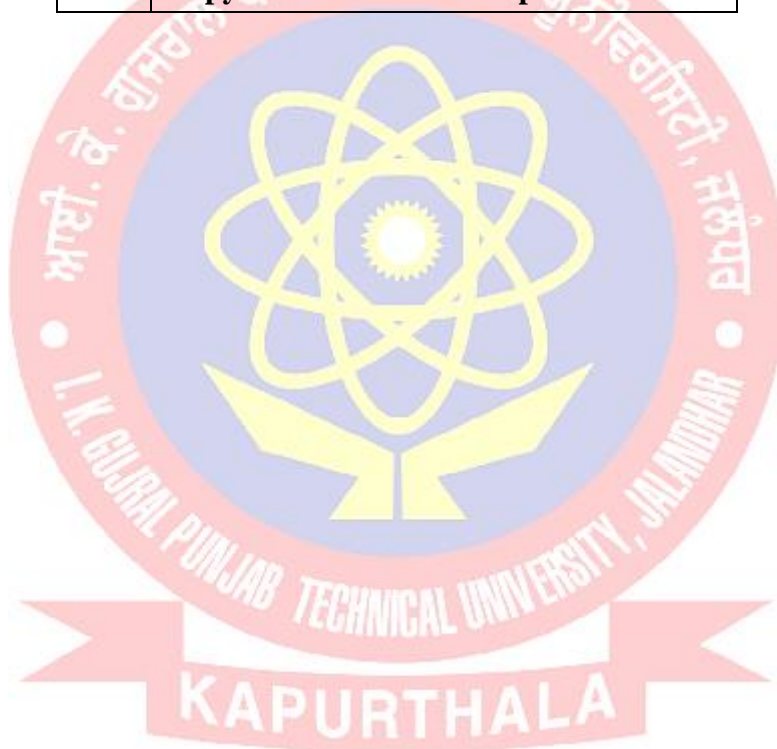


**Department: Electronics &  
Communication Engineering**

**3.1.5**

**Facilities to Support Research**

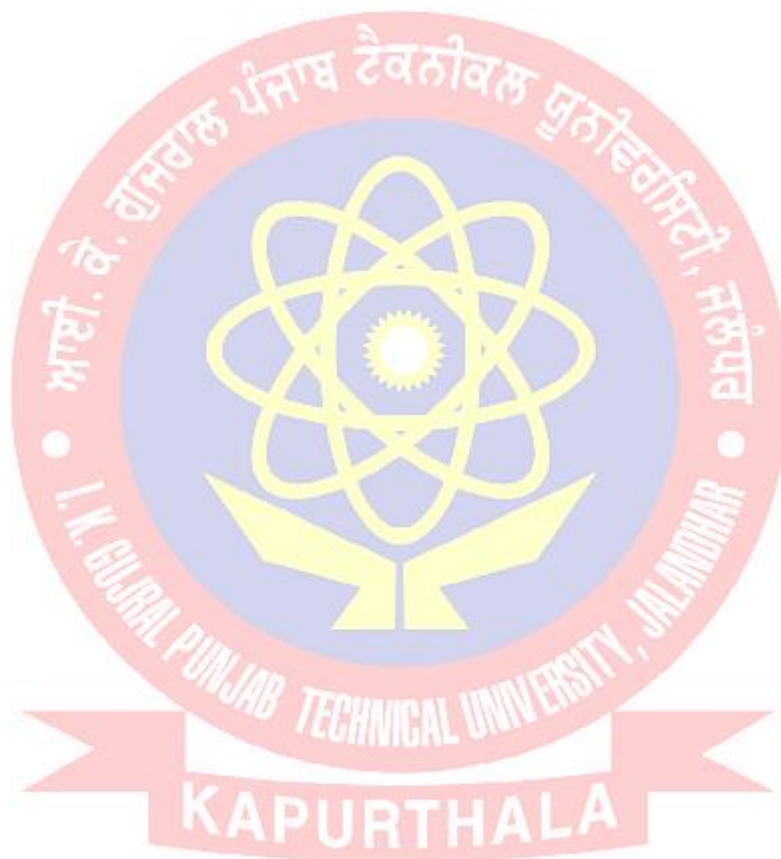
Sl. No.	Documents Attached
1	Geotagged Photographs
2	Details of the Structure of the Facilities
3	Copy of Database Subscription Letter

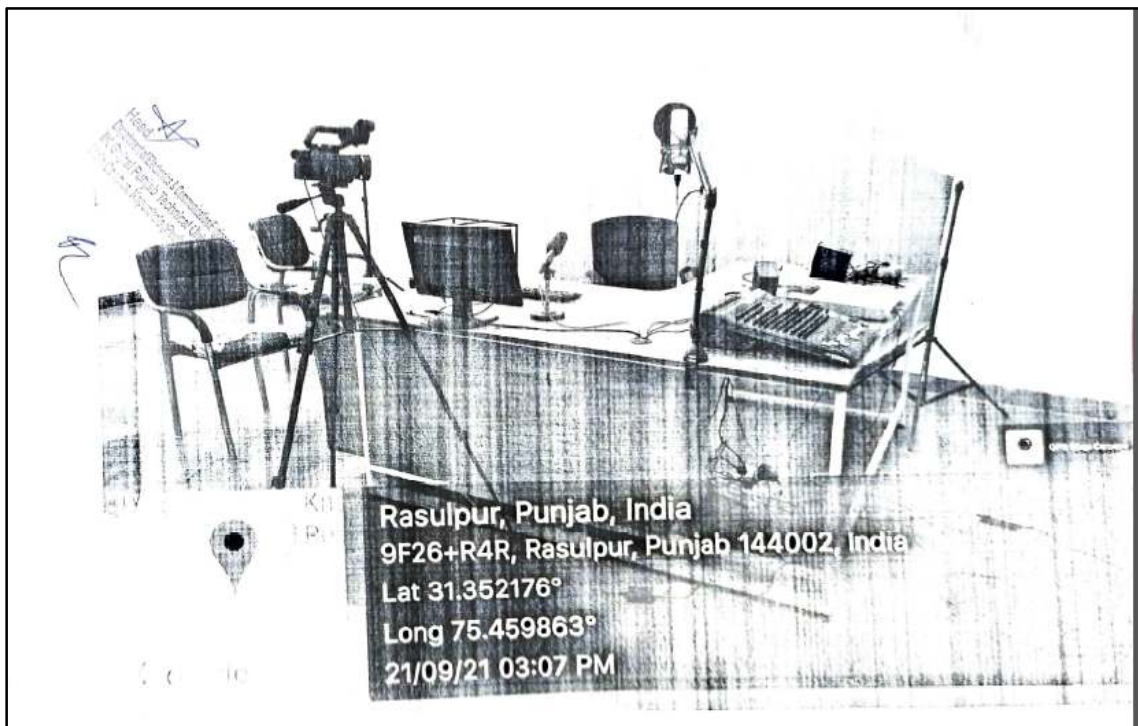


### 3.1.5

## Facilities to Support Research

### Geotagged Photographs

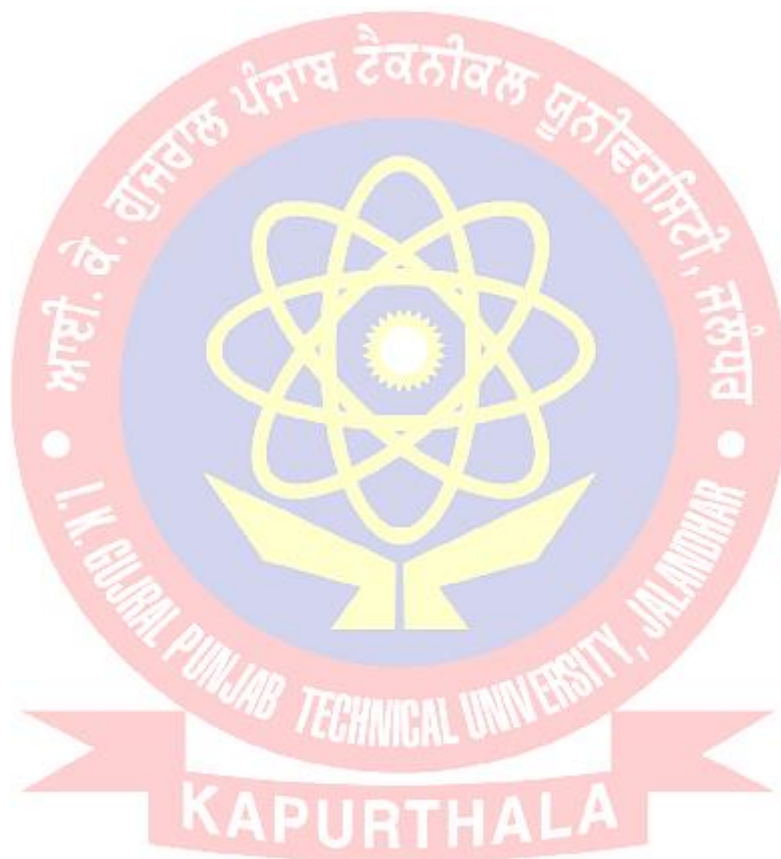




### 3.1.5

## Facilities to Support Research

### Details of the Structure of the Facilities





**IK GUJRAL PUNJAB TECHNICAL UNIVERSITY, MAIN CAMPUS,  
KAPURTHALA**

**Department of Electronics and Communication Engineering**

**Sub: Details of Structure of each of the facilities Available (3.1.5)**

The facilities available in department of ECE are as under:

**1. Lecture Recording Studio**

Following equipment is available in Lecture Recording Studio

Sr No	Description of Items	Quantity	Price (Inc GST) INR
1	360 degree(Insta 360 one-R Twin Edition)	1	60,180/-
2	Camcorder	1	1,66,400/-
3	Shotgun Microphone	1	24,780/-
4	Condenser Microphone	1	24,780/-
5	Professional Studio Boom Arm	2	16,520/-
6	Motorized 6x8 Projectors Screen	1	18,172/-
7	Collar Microphone	2	8,024/-
8	Tripod Stand for Shoulder Camcorder	1	5,074/-
9	16-Input 6 Bus Mixer	1	42,480/-
10	Multimedia Speakers	1	20,060/-
11	Four Studio Lights with Stand	4	51,920/-
12	Green Backdrop Background	2	8,024/-

**2. Research Lab**

Following software are available in the department of ECE for practical work related to UG, PG and research level.

Sr No	Name of the software	No of users	Rate(in Rs)	Amount(in Rs)
1	EstiNet V10	5	11,55,000/-	11,55,000/-
2	OPTISYTEM	5	15,74,580/-	15,74,580/- →
3	OrCAD PSPICE	10	8,29,500/-	8,29,500/-
4	KEIL MDK-PRO	10	3,09,750/-	3,09,750/- →

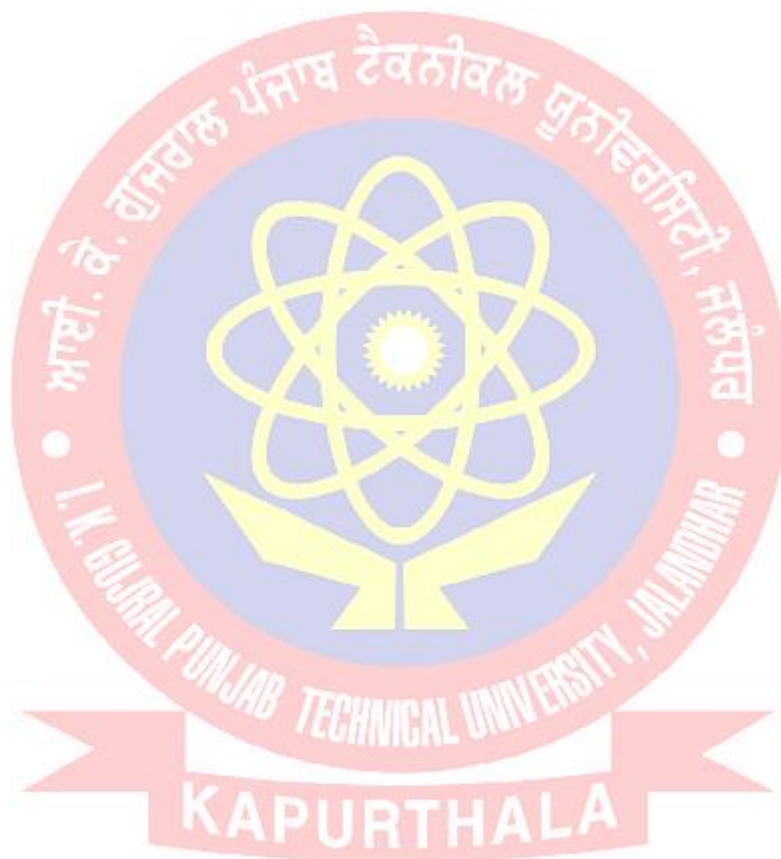
  
**HOD(ECE)**

  
**Head**  
Department of Electronics & Communication Engineering  
IK Gujral Punjab Technical University  
Main Campus, Kapurthala (Punjab) - 146003

### 3.1.5

## Facilities to Support Research

### Copy of Database Subscription Letter





ਆਈ. ਕੇ. ਗੁਜਰਾਲ ਪੰਜਾਬ ਟੈਕਨੀਕਲ ਯੂਨੀਵਰਸਿਟੀ ਜਲੰਧਰ  
I. K. GUJRAL PUNJAB TECHNICAL UNIVERSITY JALANDHAR

Estd. Under Punjab Technical University Act, 1995  
(Punjab Act No. 1 of 1997)

Dr. S.S. Wallia  
Registrar

Ref. No. IKGPTU/REG/ MC/ 2949  
Dated 05/11/2019

M/s Trinity Microsystems Pvt. Limited,  
313, 3<sup>rd</sup> Floor, Triveni Complex, E-10-12,  
Jawahar Park, Vikas Marg, Laxmi Nagar,  
New Delhi-110092, India.

**Subject:** Revised Purchase Order in continuation to IKGPTU/MC/2359 dated 20.09.2019 for Supply, Installation, Commissioning of ESTINET, ORCAD PSPICE, OPTISYSTEM & KEIL MDK for Department of ECE, Main Campus IKGPTU, Kapurthala (PB).

This is in continuation of Purchase Order IKGPTU/MC/2359 dated 20.09.2019 against your bid for Tender ID: 2019\_DTE\_26157\_1, Contract No: IKGPTU/MC/2018-19/009 for Supply, Installation, Commissioning & Maintenance of following Software as per specifications mentioned in bid document for Department of Electronics & Communication Engineering, I.K. Gujral Punjab Technical University Main Campus, Kapurthala (Punjab) has been revised. You are requested to supply the following items as per detailed technical specification in the tender document.

S. No.	Name of Software	Number of Users	Rate (In Rs.)	Amount (In Rs.)
1.	EstiNet™ V10 or Latest	5 users	11,55,000/-	11,55,000/-
2.	OPTISYSTEM v15	5 users	15,74,580/-	15,74,580/-
3.	OrCAD PSPICE	10 users	8,29,500/-	8,29,500/-
4.	KEIL MDK-PRO	10 users	3,09,750/-	3,09,750/-
Total Rs.			38,68,830/-	

(RUPEES THIRTY EIGHT LAH SIXTY EIGHT THOUSAND EIGHT HUNDRED THIRTY ONLY)

**Terms & Conditions:**

1. Delivery to be made within 45 Days from the date of issuance of supply order.
2. Delivery at Store, CB-III Building, IKGPTU Main Campus, Kapurthala between 10:00 AM to 1:00 PM and 2:00 PM to 4:00 PM on any working day except Saturday, Sunday and gazetted holidays.
3. GST Included.

Registrar

Cc to:

1. I/C Secretariat, O/o Vice Chancellor: For information of Vice Chancellor
2. Director (Main Campus), IKGPTU
3. Deputy Controller (F&A), IKGPTU
4. HoD (ECE), IKGPTU
5. AR (MC- S&P), IKGPTU

"Propelling Punjab to a prosperous Knowledge Society"

**I.K. Gujral Punjab Technical University**

Jalandhar Kapurthala Highway, Kapurthala-144603. Ph. : 01822-282521, 282501  
Email : ahlualiasukhbir@gmail.com Registrar@ptu.ac.in Website : www.ptu.ac.in

Head  
Department of Electronics & Communication Engineering  
I.K. Gujral Punjab Technical University  
Main Campus, Kapurthala (Punjab)-144603

Scanned by CamScanner



07AAACT9416E1ZF  
AAACT9416E

INVOICE / BILL



# Trinity Microsystems Pvt. Ltd.

313, Triveni Complex, E-10-12, Jawahar Park, Vikas Marg, Laxmi Nagar, DELHI - 110092  
Ph. : (+91) (011) 22016186, 22458310, 42486766, Website : <http://www.trinitymicrosystem.com>  
E-mail : [info@trinitymicrosystem.com](mailto:info@trinitymicrosystem.com), [sales@trinitymicrosystem.com](mailto:sales@trinitymicrosystem.com)

Reverse Charge : Yes / No

Invoice No **069**

Invoice Date **26/11/19** State Code : 07

Transport Mode **By Hand**

Details of Receiver (Bill To)

Name **The Registrar**

Address **I.K. Gujral Punjab Technical University  
Kapurthala - 144603**

Invoice No.

Date of Supply **26/11/2019**

Place of Supply **Kapurthala**

GSTIN  
State

**Punjab**

State Code : **03**

Date **05/11/19**

Purchase Order No. **IKGPTU/REG/NC/2949**

S No.	DESCRIPTION OF GOODS	HSN CODE	QTY. Nos.	Unit Price (Rs.)	AMOUNT (Rs.)
01	ORCAD PSPICE Software (ORCAD University PCB Design Bundle)	85243111	10	-	7,90,000/-

Central Store : IKGPTU MAIN CAMPUS  
Certified that entry of this bill has been made in the  
Central Stock Register of Non-Consumable Consumable  
Stores of Page No. **172**  
Sl. No. **05**

**Rajwinder K.**  
Store Keeper (Store)  
17/01/20  
Software Delivered  
Installed & Demonstrated.  
12/1/19

Department of  
Page No. **29** Date : **12/01/2020**  
Sent to : **72**

## Bank Details

Account No. **560101000075650**  
Bank Name **CORPORATION BANK**  
BRANCH **Laxmi Nagar, Delhi - 110092**  
Bank's IFSC Code **CORP0000506**

Total Amount Before GST	7,90,000/-
(+) CGST @	-
(+) SGST @	-
Total Amount With GST	8,29,500/-

Total Amount in Words (Rs.) **Eight Lakh Twenty Nine Thousand Five Hundred only**

## Note:

- Goods are guaranteed against any manufacturing defect.
- Goods once supplied will not be taken back.
- Interest @ 24% per annum and all incidental charges on all amount not paid on due date.
- All disputes subject to Delhi Jurisdiction only.

**Head**  
Department of Electronics & Communication  
IK Gujral Punjab Technical University  
Main Campus, Kapurthala (Punjab)

TRINITY MICROSYSTEMS PVT. LTD.  
(Manager)



AACT9416E1ZF  
AACT9416E

INVOICE / BILL

Trinity Microsystems Pvt. Ltd.

313, Triveni Complex, E-10-12, Jawahar Park, Vikas Marg, Laxmi Nagar, DELHI - 110092  
Ph. : (+91) (011) 22016186, 22458310, 42486766, Website : <http://www.trinitymicrosystem.com>  
E-mail : [info@trinitymicrosystem.com](mailto:info@trinitymicrosystem.com), [sales@trinitymicrosystem.com](mailto:sales@trinitymicrosystem.com)

Charge : Yes / No

Invoice No. :

090

Invoice Date 06/01/2020 State Code : 07

Details of Receiver (Bill To)		Transport Mode: By person
Registered		Vehicle No. —
I.K. Gujral Punjab Technical		Date of Supply: 06/01/2020
University - Kapurthala Highway		Place of Supply: Kapurthala
KAPURTHALA		
PUNJAB		State Code: 03

Purchase Order No. : 1KGPTU/PEC/NC/2949

Date: 05/11/2019

No.	DESCRIPTION OF GOODS	HSN CODE	QTY. Nos.	Unit Price (Rs.)	AMOUNT (Rs.)
1.	OPTISYSTEM Software (5 users, perpetual Licence) Latest version from OPTIMAVE, Canada) Software on CD in original format and USB key/lock	—	01 Set (5 users)	— 149760/-	149760/-

Bank Details

Account No. : 560101000075650  
Bank Name : CORPORATION BANK  
BRANCH : Laxmi Nagar, Delhi - 110092  
Bank's IFSC Code : CORP0000506

Total Amount Before GST 149760/-

(+) CGST @ —

(+) SGST @ —

(+) IGST @ 05% 7488/-

Freight & Insurance —

Total Amount With GST 157248/-

Total Amount in Words (Rs.): Fifteen Lakh seventy

four thousand five hundred and eighty only

For TRINITY MICROSYSTEMS PVT. LTD.

Note:

- Goods are guaranteed against any manufacturing defect.
- Goods once supplied will not be taken back.
- Interest @ 24% per annum and all incidental charges on all amount not paid on due date.
- All disputes subject to Delhi Jurisdiction only.

Head  
Department of Electronics & Communication Engineering  
IK Gujral Punjab Technical University  
Main Campus, Kapurthala (Punjab)-144608



# Trinity Microsystems Pvt. Ltd.

313, Triveni Complex, E-10-12, Jawahar Park, Vikas Marg, Laxmi Nagar  
**DELHI - 110 092, (INDIA)** GST No. : 07AAACT9416E1ZF  
Ph. : (+91) (011) 22016186, 22458310, 42486766, (M) : 9810190925, 7834925944  
E-mail : info@trinitymicrosystem.com, sales@trinitymicrosystem.com  
Website : <http://www.trinitymicrosystem.com> CIN : U30007DL1998PTC097051

## Authentication / Warranty Certificate

Optiwave software is genuine, design & developed by M/s Optiwave System Inc., Canada. The supplied software is their proprietary products and warranted against defects in material and workmanship for a period of **THREE YEAR** from the date of shipment or the date of installation as per the purchase order.

This **THREE YEAR** warrant entitles you to receive all updates for a period of **THREE YEAR** launched by M/s Optiwave Systems Inc and covers repair or replacement of defective Security plug and CD media and its related support for **THREE YEAR** of its purchase. The company will, at its option, either repair or replace products or part thereof that prove to be defective provided it is returned by the buyer at their expense.

The foregoing warranty shall not apply to defects resulting from improper or inadequate maintenance to the product or any unauthorized modification or misuse, neglect, improper installation, repair, alteration, or accident. Operation outside the specified environmental conditions renders this warranty invalid. The USB key will continue to be under warranty if an active maintenance & support agreement is maintained. If the key becomes damaged, the customer must return the defective key. No replacement will be given against a lost USB key.

Optiwave or their value added reseller shall not be liable for any collateral or consequential damages. No other warranty is expressed or implied.

Customer:

# The Registrar  
I.K Gujral Punjab Technical University  
Jalandhar Kapurthala Highway,  
**KAPURTHALA - 144603 (PUNJAB)**

Valued Added Reseller (VAR)

# HR Universal Systems Inc., Delhi NCR

Customer Purchase Order:

# IKGPTU/REG/NC/2949  
Dated November 05, 2019

VAR Invoice/Bill Reference:

# Invoice No. : 090 Dated January 06, 2020

Warranty Period

# Until January 06, 2023

Product

# OptiSystem Version 16.1 or Latest  
USB Serial # DKGVZ-UP687

For TRINITY MICROSYSTEMS PVT LTD

(Authorized Signatory)

Head  
Department of Electronics & Communication Engineering  
IK Gujral Punjab Technical University  
Main Campus, Kapurthala (Punjab) 144603



# RU

## Authentication / Warranty Certificate

Optiwave software is genuine, design & developed by M/s Optiwave System Inc., India. The supplied software is their proprietary products and warranted against defects in material and workmanship for a period of THREE YEAR from the date of shipment or the date of installation as per the purchase order.

Its THREE YEAR warranty entitles you to receive all updates for a period of THREE YEAR launched by M/s Optiwave Systems Inc and covers repair or replacement of defective Security plug and CD media and its related support for THREE YEAR of its purchase. The company will, at its option, either repair or replace products or part thereof that prove to be defective provided it is returned by the buyer at their expense.

The foregoing warranty shall not apply to defects resulting from improper or inadequate maintenance to the product or any unauthorized modification or misuse, neglect, improper installation, repair, alteration, or accident. Operation outside the specified environmental conditions renders this warranty invalid. The USB key will continue to be under warranty if an active maintenance & support agreement is maintained. If the key becomes damaged, the customer must return the defective key. No replacement will be given against a lost USB key.

Optiwave or their value added reseller shall not be liable for any collateral or consequential damages. No other warranty is expressed or implied.

Customer:

# I K Gujral Punjab Technical University,  
Jalandhar, Punjab.

THROUGH

M/s Trinity Microsystems Private Limited  
Delhi - 92

Optiwave, Indian Distributor

# HR Universal Systems Inc., Delhi NCR

Warranty Period

# Until January 15, 2023

Product

# OptiSystem Version 16.1 (5 Users License)  
USB Serial # DKGYZ-UP687

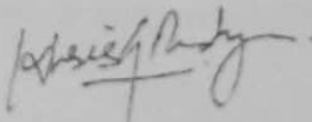


QC Department

Head

HR Universal Systems Inc.  
Corporate Suite #30, 5 floor,  
Anand Plaza, Sector 1, Gurgaon,  
Gharolohasi-201010 (Delhi NCR) India

www.hr-universal.com  
Ph: +91 120 4348913 Fax: 0120 4339723

  
Authorized Signatory

Department of Electronics & Communication Engineering  
I K Gujral Punjab Technical University  
Jalandhar, Punjab, India-144003

## INVOICE / BILL

Trinity Microsystems Pvt. Ltd.



311, Towne Complex, 1-19-12, Junction Hwy. Meigs, Ark. 71651. (601) 411-1111.  
 Pl. # 91/01122916189, 2245810, 4248764, 944610. Has been previously listed  
 1. local infodiv. typhlocyba, cyba, etc. (typical) (typical) (typical) (typical)

Charge Yes / No

In early 1960

091

10/12/2019 07/01/2020

### Details of Receiver (Bul 10)

Translated from

By P. J. - 5

June 1983

7

07/01/2021

Part 4 Supply

картина

Purchase Order No. \_\_\_\_\_

IKGPTU/PCG/NC/2947

Ust 05 Jul 2011

QTY	DESCRIPTION OF GOODS	ITEM CODE	QTY Nos.	Unit Price (Rs.)	Amount (Rs.)
1	Eslnet software (v 10.0 or latest perpetual/Life Time Licenses) 05 user Release License with 3 years AMC)	8523	01 (1) (05 user)	11,000/-	11,000/-

<b>Bank Details</b>	Total Amount Before GST	11,00,000/-
Account No. 560101000075650	(+) CGST @	-
Bank Name CORPORATION BANK	(+) SGST @	-
BRANCH Lakshmi Nagar, Delhi - 110092	(+) IGST @ 5%	55,000/-
Bank's IFSC Code CORP00006506	<b>AMOUNT IN WORDS</b>	-
Total Amount in Words (Rs.) <u>Eleven Lakh 1000</u>	Total Amount With GST	11,55,000/-

- Goods are purchased against any manufacturing deficit
- Goods are supplied and not taken back
- Interest @ 24% per annum and an incidental charge, as all goods are paid in cash
- A discount is given to the Supplier only

For TRINITY MICROSYSTEMS PVT. LTD.

(Manager)

Head  
Department of Electronics & Communication Engineering  
JK Gujral Punjab Technical University  
Main Campus, Kapurthala (Punjab)-146002



# Trinity Microsystems Pvt. Ltd.



313, Triveni Complex, E-10-12, Jawahar Park, Vikas Marg, Laxmi Nagar  
**DELHI - 110 092, (INDIA)** GST No. : 07AAACT9416E1ZF  
Ph : (+91) (011) 22016186, 22458310, 42486766, (M) : 9810190925, 7834925944  
E-mail : [info@trinitymicrosystem.com](mailto:info@trinitymicrosystem.com), [sales@trinitymicrosystem.com](mailto:sales@trinitymicrosystem.com)  
Website : <http://www.trinitymicrosystem.com> CIN : U30007DL1998PTC097051

## LICENSE AND WARRANTY CERTIFICATE

This certificate grants customer to use the EstiNet Simulation Software, as described herein, subject to prior payment of the fee specified for the license. Rights and restrictions on the use transfer and copying of the software are set forth in EstiNet Software License Terms, available in the software. Requesting this certificate indicates your acceptance of the Software License Terms.

EstiNet software is a proprietary software product, design & developed solely by M/s EstiNet Technologies Inc., Hsinchu, Taiwan. The supplied proprietary product is warranted against any manufacturing defects in material and workmanship for a period three (03) year from the date of shipment or the date of installation as per the purchase order.

This three (03) year warrant entitles you to receive all updates for a period of three years launched by M/s EstiNet Technologies Inc. and covers repair or replacement of defective software media / license and its related support for three (03) year of its purchase. The company will, at its option, either repair or replace products or part thereof that prove to be defective provided it is returned by the buyer at their expense.

The foregoing warranty shall not apply to defects resulting from improper or inadequate maintenance to the product or any unauthorized modification or misuse, neglect, improper installation, repair, alteration, or accident. Operation outside the specified environmental conditions renders this warranty invalid.

EstiNet or their value added reseller shall not be liable for any collateral or consequential damages. No other warranty is expressed or implied.

Product	Description	User Licenses	License Key
EstiNet™ Simulation Software Version 10.0 or latest	EstiNet™ - An SDN based Simulator & Emulator	Five User Perpetual License	License Key / Customer ID: c02587

### References

1. End Customer: Registrar, I.K. Gujral Punjab Technical University, Kapurthala - 144603, Punjab  
IKGPTU/REGANC/2949 dated 05.11.2019
2. End Customer P.O Number and Date
3. Value Added Reseller / Distributor Syngient Technologies (P) Limited  
Yamuna Nagar, Haryana - 135001.
4. VAR / Supplier Invoice and Date STPL/19-20/116 dated 07.01.2020
5. Warranty Period Three (03) Years i.e. Until 15.01.2023

For TRINITY MICROSYSTEMS PVT. LTD.

(Authorized Signatory)

Head  
Department of Electronics & Communication Engineering  
I.K. Gujral Punjab Technical University  
Main Campus, Kapurthala (Punjab - 144603)

AACT9416E1ZF  
AACT9416E

INVOICE / BILL

# Trinity Microsystems Pvt. Ltd.

311, Triveni Complex, E-10-12, Jawahar Park, Vikas Marg, Laxmi Nagar, DELHI - 110092  
Ph: (+91) (011) 22016186, 22458310, 42486766, Website: http://www.trinitymicrosystem.com  
E-mail: info@trinitymicrosystem.com, sales@trinitymicrosystem.com

Charge: Yes / No Invoice No: **093** Invoice Date: **08/01/2020** Code: 07

Details of Receiver (Bill To)		Transport Mode: <b>By person</b>
<b>Registration</b> <b>I.R. Gujarat Punjab Technical</b>		Vehicle No: <b>-</b>
<b>University</b> <b>Talwandi - Kapurthala Highway</b>		Date of Supply: <b>05/01/2020</b>
<b>KAPURTHLA - 146103</b>		Place of Supply: <b>Kapurthala</b>
<b>PUNJAB</b> State Code: <b>03</b>		Date: <b>05/10/2019</b>
Purchase Order No: <b>IKGPTU/REG/NC/2749</b>		

Sl	DESCRIPTION OF GOODS	HSN CODE	QTY Nos	Unit Price (Rs.)	AMOUNT (Rs.)
1	KEIL PADK-PRO software (Latest version)	8523	01 set (1 used)	295000/-	295000/-

Bank Details		Total Amount Before GST	
Account No: 560101000075650		295000/-	
Bank Name: CORPORATION BANK		(+ CGST @ - - - - -	
BRANCH: Laxmi Nagar, Delhi - 110092		(+ SGST @ - - - - -	
Bank's IFSC Code: CORP0000506		(+ IGST @ 5% - - - - - 14750/-	
Total Amount in Words (Rs.) <b>Three lakhs nine thousand seven hundred and fifty only</b>		Total Amount With GST <b>3,09,750/-</b>	
<p>Note:</p> <ul style="list-style-type: none"> <li>• Goods are guaranteed against any manufacturing defect.</li> <li>• Goods once supplied will not be taken back.</li> <li>• Interest @ 24% per annum and all incidental charges on all amounts not paid on due date.</li> <li>• All disputes subject to Delhi Jurisdiction only.</li> </ul>		<p>For TRINITY MICROSYSTEMS PVT. LTD.</p> <p><i>(Signature)</i> (Manager)</p>	

Head  
 Director of Education & Communication Engineering  
 IK Gujral Punjab Technical University  
 Main Campus, Kapurthala (Punjab) - 146103

# Trinity Microsystems Pvt. Ltd.



313, Triveni Complex, E-10-12, Jawahar Park, Vikas Marg, Laxmi Nagar  
DELHI - 110 092, (INDIA) GST No. : 07AAACT9416E1ZF  
Ph. : (+91) (011) 22016186, 22458310, 42486766, (M) : 9810190925, 7834925944  
E-mail : info@trinitymicrosystem.com, sales@trinitymicrosystem.com  
Website : <http://www.trinitymicrosystem.com> CIN : U30007DL1998PTC097051

Dated : 08/01/2020

## WARRANTY CERTIFICATE

This is to Certify that the Following software ordered against PO No. IKGPTU/REG/NC/2949 Dated 05-09-2019 and supplied against our Bill No. 093 dated 08/01/2020 in I K Gujral Punjab Technical University, Kapurthala - 144603 are having warranty upto 20/01/2023 with free upgrades and AMC.

1. KEIL Software — 10 User  
(Latest Version)

Thanking You

Yours Sincerely

For TRINITY MICROSYSTEMS PVT. LTD.



(M. YESUREATHNAM)  
Managing Director  
9810190925

Optical & Electronic & Computer Engineering  
Department of Electronics & Computer Engineering  
I K Gujral Punjab Technical University  
Kapurthala - 144603  
Head

*[Handwritten signature]*

3.1.5

## IKGPTU Main Campus, Kapurthala

Department of ECE

Ref. No.: 1343 Date: 08/10/2021

Sent to: NAAI

### Department of Electronics and Communication Engineering

Ref No.

Date:

### CERTIFICATE

This is certified that following softwares are available in the department for practical work related to UG, PG and research level.

- I) KEIL MDK-PRO
- II) Optisystem V15
- III) EstiNet 10
- IV) MATLAB

(HOD) ECE

08/10/2021

Head

Department of Electronics & Communication Engineering  
IKGPTU Main Campus, Kapurthala  
Punjab - 146003