For Office use only

VASANTRAO NAIK MARATHWADA KRISHI VIDYAPEETH, PARBHANI

CENTRE OF EXCELLENCE FOR KESAR MANGO

FRUIT RESEARCH STATION, HIMAYATBAGH, AURANGABAD

TENDER DOCUMENT

Establishment of Components of Hi-Tech Nursery and Demonstration plot of Mango

LAST DATE FOR RECEIPT OF TENDER : 13.11.2013 BY 14.00 HOURS

VASANTRAO NAIK MARATHWADA KRISHI VIDYAPEETH, PARBHANI

FRUIT RESEARCH STATION, HIMAYATBAGH, AURANGABAD

TENDER FORM FOR ESTABLISHMENT OF COMPONENTS OF HI-TECH NURSERY

To,
The Principal Investigator,
Centre of Excellence for Kesar Mango &
Officer In charge,
Fruit Research Station, Himayatbagh,
Aurangabad

Dear Sir,

1. In response to the tender notice published in the daily newspaper _____ dated _____ th _____ I/We submit herewith the tender form for establishment of components of Hi-Tech Nursery.
2. I/We have thoroughly examined and understood the General and specified terms and conditions of the tender form and I/We agree to abide by them in to and in testimony I had signed the declaration and undertaking.

3. I/We agreed to fulfill the requirement of all components of Hi-tech nursery accordingly have quoted the rates inclusive of all taxes, freight, etc as given in Appendix-II.

4. I/We shall be bound by communication of acceptance of the offer within prescribed time.

5. I/We accept that the right to accept or reject whole or part of the tender without assigning any reason is reserved with the Chairman of Tender Committee and Director of Research, VNMKV, Parbhani. The decision of the Chairman of Tender Committee and Director of Research, VNMKV, Parbhani will be final and shall be binding on me/us.

6. A Demand Draft (D.D.) of EMD for establishment of components of Hi-Tech Nursery payable at Parbhani bearing No. _____&_____ dated the _____ 2013 in favour of the Comptroller, VNMKV, Parbhani is enclosed herewith.

7. I/We agree to establish the components of Hi-Tech Nursery as per the specifications of the final orders for the period specified in special conditions of the concerned activity.

8 As per the terms and conditions, we are submitting our offer in two envelopes. The documents as per Appendix – I are enclosed in envelop No. 1. (Technical envelope) and DD of EMD. The envelope No.-2, (Commercial envelope) contains rates quoted by me/us.

9. I/We also agree that Chairman of Tender Committee and Director of Research, VNMKV, Parbhani has full rights to open/consider the commercial envelope only, if Chairman of Tender Committee is satisfied with contents in Technical envelope. The decision of the Chairman of Tender Committee regarding this will be final and binding on me/us.

10. I/We hereby declare that the entries made in this tender form and enclosed draft of agreement on apex are binding for me/us. To facilitate checking and as a step for ensuring that all documents are enclosed. I have numbered all documents and attested copies. As provided in this tender I have filled relevant entries in the checklist provided along-with this form & same is enclosed in Technical envelope.

11. Committee will open both the envelopes simultaneously but if the documents and EMD are not as per the terms and conditions then offer will not be considered.

The following documents duly filled in and signed, are enclosed along-with the tender.

Enclosures : 1) Envelop No. 1 (Appendix-I Part- I and II along with Checklist, documents and declaration)
2) Envelop No. 2 (Appendix II) along with the DD of EMD of Rs. 2,00,000/-.

Place _____ Yours faithfully,

Date _____

Name and Signature of
the Tenderer/Contractor

Phone No._____ Mob. _____

Paste recent

Passport size photograph with signature

Appendix – I (Part-I)

(This should be enclosed in envelope No. 1)

CHECKLIST MUST BE FILLED BY THE TENDERER

The documents enclosed with tender form are as listed below. Any omission makes the tender liable for rejection. Before sealing the tender please check up each item and score at the appropriate place with YES or NO. You must also quote the relevant page number. You may attach other information also but state in the list after numbering the same pages.

Sr. No.	Details	Whether Attached	Page No.
1	D. D. of E. O.I.	Yes / No	
2	Company profile, Information booklet if any	Yes / No	
3	Documents in support to reveal capacity to supply the material	Yes / No	
4	Income Tax clearance certificate / PAN card/ sell registration certificate .	Yes / No	
5	Envelop 1 (Appendix – I, Part I and II, D.D. of 2 Lakhs in favour or Comptroller, V.N.M.K.V., Parbhani)	Yes/No	
6	Envelop 2 (Appendix-II for rate per Components of Hi-Tech Nursery with specification and	Yes/No	
7	DD of tender form / Xerox copy of receipt of Tender form Rs. 3000/-	Yes/No	

The above details have been checked and found correct.

Place:

Date:

(Official Seal)

Signature of Tenderer

Appendix – I (Part –II)

"DECLARATION OF THE TENDERER"

1) That I / We _____ am / are the authorized nominee(s) of the firm _____ hereby submit tender to The Principal Investigator and Officer In charge , Fruit Research Station, Himayatbagh, Aurangabad for establishment of Component of Hi-tech Nursery at Fruit Research Station, Himayatbagh, Aurangabad. The copy of the power of Attorney is attached here with.
2) I am to state that the information provided in the tender form is true and correct
3) I / We may be punished as per law for any wrong information, misleading facts provided in the tender form besides rejection of my / our tender.
4) In case of any dispute, the Jurisdiction will be V.N.M.K.V., Parbhani only.
5) I / We have carefully read all the general and specific terms and conditions of the tender and I solemnly declare that the same are acceptable to me/us and binding on me/us.

_____

Place: Signature of Tenderer:

Date:

Name of Tenderer : _____

Capacity in which signed : _____

Full address of the Tenderer : _____
With seal &stamp :
(Attach Identity card Xerox) _____

Phone No. : _____

Mobile No. : _____

APPENDIX I (Part-III)

TERMS & CONDITIONS FOR ESTABLISHMENT OF COMPONENTS OF HI-TECH NURSERY UNDER INDO-ISRAEL PROJECT ENTITLED " CENTRE OF EXCELLENCE OF KESAR MANGO" AT FRUIT RESEARCH STATION, HIMAYATBAGH, AURANGABAD.

Expression of Interest in the form of technical and financial bid is invited from reputed firms on the following terms and conditions:

A. SCOPE OF WORK

i. This project will be on the basis of turn-key, the entire one Centre of Excellence for Mango shall be established by single bidder only.

ii. The scope of work includes all the civil work which is found necessary for the project.

iii. The work of establishing of all the structures includes Hi-Tech Greenhouse, Propagation House (Naturally Ventilated), net house, drip, fogger, sprinkler irrigation systems and its Automation for Mango cultivation shall be carried out by the bidder.

iv. The water storage tank shall be constructed as per the irrigation water requirement mentioned above requirement.

a. The construction work is in the scope of work and is to be done by firm.

b. Tube-well or water source for filling up of tank shall be provided by the Fruit Research Station, MAU, Himayatbagh, Aurangbad.

c. Water lifting for irrigation from Source to the tank shall be in the scope of work and is to be provided by firm.

v. The work also includes installation of complete micro irrigation system for protected structures and open field.

a. MIS shall be laid down in such a way that irrigation to each individual variety of mango can be controlled by valves separately.

vi. The construction of head control unit, water storage structure and control room for irrigation system will be the scope of work.

vii. All the running cost i.e. electricity charges, water charges, casual labour, transportation cost including packing and packaging material for disposal and marketing of mango produce shall be borne by the beneficiary himself.

B. TERMS OF REFERNCE

i) Sealed and superscripted tenders are invited by the Principal Investigator and Officer Incharge, Fruit Research Station, Himayatbagh, Aurangabad for establishment and installation of components of Hi-tech nursery along with other related items mentioned in the tender Appendix-II (Part-1). The filled

tender should reach to the Office of Principal Investigator Centre of Excellenc for Kesar mango and Officer Incharge, Fruit Research Station, Himayatbagh, Aurangabad on or before date 13.11.2013 upto 14.00 hours.

ii) The blank tender forms are available from 06.11.2013 on working days during 10.00 to 16.30 hrs. from the Office of Principal Investigator and Officer Incharge, Fruit Research Station, Himayatbagh, Aurangabad or on University website http://mkv2.mah.nic.in. www.mkv.ac.in.

iii) Tender in a form other than prescribed one will be rejected outright. The rates should mentioned against each item.

iv) Tender should be accompanied by Earnest Money Deposit as mentioned in the tender.

v) The Earnest Money Deposit should be remitted in crossed Demand Draft in favour of Comptroller, VNMKV, Parbhani payable at Parbhani. Cheque will not be accepted.

vi) The Earnest Money Deposit of successful tenderer will be converted in security deposit and remaining security deposit if any will be recovered @ 4% of the work order amount for making total security deposit of 5 % amount of the work order.

vii) The Earnest Money Deposit shall be forfeited in the event of tenderer, whose tender is received within the time, with draws his tender before the receipt of the official decision or the tenderer modified any terms and conditions of the original offer.

viii) Chairman of Tender Committee and Director of Research, VNMKV, Parbhani, is competent to relax any conditions of EMD at any stage.

ix) In case of any dispute the decision of Chairman of Tender Committee and Director of Research, VNMKV, Parbhani shall be final and binding upon all concerned parties as per mutual understanding in between firm/ company and VNMKV, Parbhani.

x) The items shown in in the Appendix-II (Part-I) are subject to requirements, the same purchased or may not be purchase.

xi) Relevant literatures of the items offered for sales should be sent with tender.

xii) Appendix-II (Part-I) shows names, specifications of the items for procurement for which the tender has been invited.

xiii) The rates quoted in the tender shall be FOR destination and inclusive of all taxes, duties, Government levies, transportation, erection, loading, un loading etc. No extra charges will be paid.

xiv) The rates quoted should be legible. Any correction of entries and over writing in entries with out authorized signatory may be rejected with out any prejudice.

xv) The offers which do not confirm to the conditions laid down in the tender notice shall not the considered.

xvi) The Validity of rates quoted will be upto the completion of project.

xvii) Any manufacturing defect observed during defect liability period 12 months from date of supply, tenderer will be responsible for the immediate replacement / rectification of the same at his own cost.

xviii) Work completion period will be 4 months from the date of issue of the letter or workorder.

xix) Right to reject all tenders with out assigning any reason there of is reserved.

xx) The entire work of Center of Excellence for Kesar Mango, FRS, Himayabagh, Aurangabad shall be executed by single firm.

C. SELECTION OF FIRMS/BIDDERS

1. The firm shall be invited for the technical and financial proposals and shall be selected based on the evaluation of their prequalification criteria in technical and financial bids.
2. The selection will be done by Project Evaluation Committee (PEC).
3. The selection of firm shall be based on Combined Quality cum Cost Based System (CQCBS) for this highly technical project.
4. The technical proposal will be allotted weightage of 70% while the financial proposal will be allotted weightage of 30%.
5. The contract shall be given as lump sum contract

D. ELIGIBILITY CRITERIA FOR TENDER

1. Company / firm should have at least yearly turnover of Rs. 15 corers in last three years for protected cultivation and related field with required technical man power and Agronomist on their roll having good knowledge of Green house cultivation techniques

2. The company / firm should have experience of executing orders in the business of Green house / poly house with Agricultural University in India, particularly related with Centre of Excellence Project in India at list two places.

3. The company / firm should posses manufacturing and marketing facilities for structures, PVC pipe, irrigation systems , fertigation, components etc. Under one proofs and will not be permitted to out source (Sub-contract) to other firms / sub-tenderers.

4. The company / firm should submit their audited balance sheets for the last three years and also submit separate turnover in Green house / Poly house and Net house business duly signed by Chartered Accountant.
5. Preference may be given to those firm which have their dealer office, depot and distributor net work in Marathwada region.

6. The firm / Company should have experience in installing infrastructure / Green house / poly house construction for value not less than one corers in any University.

7. The company should have ISO 9001-14000 for green house.

E. TECHNICAL BID: filling up of Performa

The technical bid shall accompanied with the enclosures for components as per performa prescribed and is attached with the document and details is as under:

Sr. No.	Intervention/Component	Annexure (With page nos.)
1	General Company Profile	
2	Past Experience of the firm with certificates	
A	No. of years of experience	
B	Past experience in carrying out work in related work	
C	Work carried out in India	
3	Experience of Engineers, Agronomist and Technician	
4	Financial Strength of the Firm	
I	For Entire Group	
II	For Protected Cultivation only (Duly Signed by CA) Year 2010-11 Year 2011-12 Year 2012-13	

F. LIBILITIES

This is the demonstration and centre shall not have any liabilities of incurring losses due to natural calamity or unforeseen conditions.

G. SPECIFICATIONS

i. Any material to be used at Centre of Excellence for Kesar Mango should be as per specification and confirming to ISI, BIS/ISO standards as applicable in a particular component. Quality of material should confirm to the specification lay down and are part of terms and conditions.

ii. Specification for Hi-Tech Greenhouse, Propagation House (Naturally Ventilated), net house, drip, fogger, sprinkler irrigation systems and its Automation as mentioned in Appendix-II (part-I).

iii. The specification for MIS should be as per guidelines of National Mission of Micro Irrigation (NMMI).

iv. Water Storage Tank: The water storage tank would be constructed as per the requirement mentioned in specifications.

v. Control Room is to be constructed for placing the MIS working systems.

H. TERMS OF PAYMENT:

The progress of work will be inspected by Project evolution committee of the project. After satisfactory inspection report payment will be released in installments as given below :

i. First installment: 50% of material cost will be released after supply of material at site and after submission of Invioce copy vehicle wise.

ii. Second installment: 25% of balance payment will be released after completion of 75% of total work.

iii. Final Payment: Balanced 25 % payment shall be released one month from the date of completion/ handover of the system. The PEC will inspect the site and issue a completion certificate. The final payment will be released after issue of this certificate.

iv. The applicable taxes as per rules of Government of Maharashtra / India should be paid by contractor / supplier and invoices of the materials should be submitted to The Principal Investigator and Officer Incharge, Fruit Research Station, Himayatbagh, Aurangabad , also if any taxes required to their should be paid by contractor / supplier or will be deducted from bidder / firm as applicable from time to time.

v. The firm is bound to complete the work with the prescribed time. Failing which the penalty can be imposed as per rule.

vi. Security deposit will be released after submission of performance of the system and 5% of total value bank guarantee for 12 months period should be submitted during completion of project.

vi. In case of supply of sub-standard material and violation of terms and conditions, bank guarantee will be forfeited and legal proceedings will be initiated and the cost will be borne by the firm .

vii. Further, in case of failure to execute the work as per the order, the contract will be terminated. The work shall be completed at the risk and cost of the firm.

J. NATURE OF AGREEMENT:

A two party agreement shall be made amongst the bidder firm/company and beneficiary (FRS, MAU, Himayatbagh, Aurangbad). The work shall be completed within prescribed time. It will invariably includes all the terms and conditions including scope of work.

Appendix – II (Part –I)
(This should be enclosed in envelope No.2)
Specifications
Tender cost for establishment / installment of component of Hi-Tech Nursery

I Hi-Tech Greenhouse (1008 sq.m.)

Sr.	Item	Specification	Cost (Rs.)
1.	Structure	**8 m x 4 m grid**	
	Size	**368 m x 28 m**	
	Total Area	**1008 sq. m.**	
	Withstand to wind velocity	140 km/ hour	
	Structure	Hot Dipped Galvanized Lipped Channel Structure, Galvanization thickness min. 40 micron	
	Foundation	Hot Dipped Galvanized Lipped Channel Foundation 2.8 mm thickness of size 45 mmx 80 mm, length 1 m.	
	Main Column	Hot Dipped Galvanized Lipped Channel Column 2.8 mm thickness of size 10 mm x 50 mm x 80mm x 50mm x 10 mm, length 4 m	
	Purlins	Hot Dipped Galvanized Lipped Channel Purlin 2mm thickness of size 10 mmx 40 mmx 60mm x 40mm x 10 mm, length 4 m	
	Truss	Hot Dipped Galvanized Lipped Channel Truss 2mm thickness of size 25 mm x 50mmx 25 mm	
	Mid Pole	Hot Dipped Galvanized Lipped Channel Mid Pole 2mm thickness of size 10 mmx 40 mmx 60mm x 40 mm x 10 mm	
	Side Corridor Foundation	Hot Dipped Galvanized Channel Corridor foundation 2mm thickness of size 35 mm x 55mm, length 1 m	
	Side Corridor	Hot Dipped Galvanized Lipped Channel Corridor 2mm thickness of size 10 mm x 40 mm x 60 mm x 40mm x 10 mm, length 4 m	
	Wire Rope	4 mm thick steel wire rope for internal column and truss locking	
	Bracing	Pre-galvanized pipe bracing 33 mm OD 2 mm thick	
	Gutter	Hot Dipped Galvanized 2 mm thick 4.04 m gutter	
	Nut Bolts	Galvanized Nut bolts of Size 3/8", 5/16", ¼", 5mm variable lengths	
	Gable Span	8.0 m	
	Gutter Height	Minimum 3.75 m – 4 m	
	Ridge Height	Minimum 5.5 m.	
2.	Aluminum Profile	Aluminum Locking profile with EPDM rubber to fix six mm poly carbonate sheet, Poly carbonate sheet should be U.V. stabilized, anty fog, multiwall (Double wall) I R Blocking, 6 mm thick.	

3.	Thermal Net (Alluminate)	Thermal Net (Alluminate)-UV stabilized 50%, Shade percentage : 50-54%, Weight (gr/m²) : 58-62, Reflection : 50% with nylon supports cable pully.	
4.	Insect Proof Net	Insect Net- 40/50 mesh UV stabilized, weight 105-110 grams/ sq. m., material- HDPE, light transmission up to 75% (At colling pad width should be min 2.5 m)	
5.	Door	Double doors, FRP/ PVC Foam sheet/ PC sheet doors with 2 m x 2 m sliding door having proper latch arrangement for locking	
6.	Anti Room	Anti room of size 4 m x 3 m	
7.	Civil work	Cement concrete 1:2:4 block of size 40 cm x 40 cm x 90 cm for embedding vertical channel foundation.	
8.	Construction of Brick wall and Path ways	Construction of brick wall below cooling pad of size 0.3 m x 0.9 m above ground x 36 m long and 0.45 m below ground with PCC 10 cm thick 1:3:6 below wall with both side plaster and 0.3 m x 0.3 m above ground x 92 m long and 0.3 m below ground with PCC 10 cm thick 1:3:6 below wall with both side plaster above ground at periphery. Construction of pathways 0.8 m wide 28 m long with PCC 0.1 m thick 1:3:6 CM ratio in between benches 20 No. of paths and 1.5 m wide and 36 long two sides and at centre. Filling of aggregates below benches 4 inches thick with drainage pipe polyethylene mulching below piping.	
9.	Benches	The benches will be made of Hot Dipped Galvanized 0.75 m height above ground and 0.9 m width and columns grouted in ground 0.15 m x 0.15 m x 0.3 m, The main frame is made of 48 mm x 25 mm sq. pipe 2 mm thick with support 25 mm x 25 mm with GI mesh 1" size.	
10.	Poly Bags	Poly bags for seedling of mango with coco peat required for one cycle	
11.	Sprinkler System	Overhead anti-leak mini sprinkler modular 105 lph at spacing 2.5 m x 3 m spacing, PVC pipe 63 mm x 6 Kg/cm2, PVC ball valve, solenoid valves, electrical cable for solenoid valve, flush valve 63 mm, plastic screen filter 25 m3/hr, fittings	
12.	Fogger System	Overhead anti-leak four way fogger 28 lph at spacing 2.5 m x 2.5 m spacing, PVC pipe 63 mm x 6 Kg/cm2, PVC ball valve, solenoid valves, electrical cable for solenoid valve, flush valve 63 mm, plastic screen filter 25 m3/hr, fittings	
13.	Electrical Panel	Consist of Relay, MCB, contractor, voltmeter, three way switch, RYB indicator, panel made of MS sheet duly painted etc. electrical cable with motor pump.	
14.	Automation	Wide Display Controller 32 station with software and should have facility to expand 16 station, fertigation machine with online Ec & pH measurement facility, ventures expandable up to 8 no., UPS, computer, weather station, temperature and humidity sensor, solenoid valves, cable, PVC duct pipe etc. complete.	
15.	Cooling pad	Cellulose cooling pad 32 m x 2 m x 0.1 m thick with galvanized water collecting gutter and PVC water distribution system with pump, filter etc.	
16.	Exhausts Fan	Exhaust fan 50" galvanized body with louver, 1.5 HP motor 3 phase, belt drive with motor bare adjustment facility, 23000 cfm Capacity Qty. 6 No., electrical cable etc.	

II. Naturally Ventilated Propagation House(2176 sq.m)

Sr.	Item	Specification	Cost (Rs.)
1.	Structure	**8 m x 4 m grid**	
	Size	**68 m x 32 m**	
	Total Area	**2176 sq. m.**	
	Withstand to wind velocity	140 km/ hour	
	Structure	Pre-galvanized Lipped Channel Cum Tubular Structure, Galvanization thickness min. 18-20 micron	
	Foundation	Pre-galvanized Lipped Channel Foundation 2.8 mm thickness of size 45 mmx 80 mm, length 1 m.	
	Main Column	Pre-galvanized Lipped Channel Column 2.8 mm thickness of size 10 mm x 50 mm x 80mm x 50 mm x 10 mm, length 4 m	
	Purlins	Pre-galvanized Lipped Channel Purlin 2mm thickness of size 10 mmx 40 mmx 60mm x 40 mm x 10 mm, length 4 m	
	Truss	Pre-galvanized Tubular Truss 48mm OD 2 mm thick thickness and horizontal tension member 33 mm OD, bracing 33 mm OD 2 mm thickness	
	Mid Pole	Pre-galvanized Lipped Channel Mid Pole 2mm thickness of size 10 mmx 40 mmx 60mm x 40mm x 10 mm	
	Side Corridor Foundation	Pre-galvanized Lipped Channel Corridor foundation 2mm thickness of size 35 mm x 55mm, length 1 m	
	Side Corridor	Pre-galvanized Lipped Channel Corridor 2mm thickness of size 10 mm x 40 mm x 60 mm x 10 mm, length 4 m	
	Wire Rope	4 mm thick steel wire rope for internal column and truss locking	
	Bracing	Pre-galvanized pipe bracing 33 mm OD 2 mm thick	
	Gutter	Pre-galvanized 2 mm thick 4.04 m gutter	
	Nut Bolts	Galvanized Nut bolts of Size 3/8", 5/16", ¼", 5mm variable lengths	
	Gable Span	8.0 m	
	Gutter Height	Minimum 3.75 m – 4 m	
	Ridge Height	Minimum 6.5 m.	
	Curtain pipe	Pre-galvanized tubular pipe 20mm OD 2mm thick, with Handel and universal joint	
2.	Aluminum Profile	C type Aluminum Locking profile with Zigzag Spring (Galvanized/ Plastic Coated).	
3.	Polyethylene Film	Poly Film having thickness of 200 micron (160-170 GSM) which provides the maximum light 86-90%, UV up to 350-380 nm prevent from insect, IR blocking to maintain the night temperature, Diffused (scattered light to avoid the shadow and scorching effect on leaves)	
4.	Thermal Net (Alluminate)	Thermal Net (Alluminate)- UV stabilized 50%, Shade percentage : 50-54%, Weight (gr/m²) : 58-62, Reflection : 50% with support nylon pully.	
5.	Insect Proof Net	Insect Net- 40/50 mesh UV stabilized, weight 105-110 grams/ sq. m., material- HDPE, light transmission up to 75% (Side vent width should be min 2.5 m)	

6.	Door	Double doors, FRP/ PVC Foam sheet/ PC sheet doors with 2 m x 2 m sliding door having proper latch arrangement for locking	
7.	Anti Room	Anti room of size 4 m x 3 m	
8.	Civil work	Cement concrete 1:2:4 block of size 40 cm x 40 cm x 90 cm for embedding vertical channel foundation.	
9	Construction of Path ways	Construction of pathways 2 m wide 68 m long with PCC 0.1 m thick 1:3:6 CM ratio on two sides and 1.5 m wide and 36 m long at centre. Filling of aggregates below poly bags with drainage pipe polyethylene mulching below piping.	
10	Beds	Raise Beds will be made of sizes 1.2 m x 28 m x 0.10 m with bricks and filling of ½" aggregate 4 inches thick below poly bags (40 beds).	
11	Poly Bags	Poly bags for seedling of mango 20 cm dia. And 30 cm height 1 lac.	
12	Drip System	Consist of Stake dripper to each bag with 4 way adopter, micro tube 6 mm, Dripper 4 lph with stake dripper complete assembly, PVC pipe 110 mm, 90 mm, 75 mm x 4 kg/cm2 main and submain 63 mm x 4 kg/cm2, Sand filter 25 m3/hr, Screen Filter 25 m3/hr,	
13	Fogger System	Overhead anti-leak four way fogger 28 lph at spacing 2.5 m x 2.5 m spacing, PVC pipe 75 mm, 63 mm x 6 Kg/cm2, PVC ball valve, solenoid valves, electrical cable for solenoid valve, flush valve 63 mm, plastic screen filter 25 m3/hr, fittings	
14	Electrical Panel	Consist of Relay, MCB, contractor, voltmeter, three way switch, RYB indicator, panel made of MS sheet duly painted etc.	
15	Automation (Common)	Wide Display Controller 32 station with software and should have facility to expand 16 station, fertigation machine with online Ec& pH measurement facility, venturies expandable up to 8 no., UPS, computer, weather station, temperature and humidity sensor, solenoid valves, cable, PVC duct pipe etc. complete.	

III. Insect Net House (Double Layor) (2176 sq.m)

Sr.	Item	Specification	Cost (Rs.)
1.	Structure	**8 m x 4 m grid**	
	Size	**68 m x 32 m**	
	Total Area	**2176 sq. m.**	
	Structure	Pre-galvanized Tubular Structure 2 mm thick	
	Foundation	Pre-galvanized Tubular Foundations at periphery 75mm OD and All Middle foundation of 60mm OD, 2mm thick	
	Columns	Pre-galvanized Tubular Columns at periphery 75mm OD and All Middle foundation of 60mm OD, 2mm thick	
	Purlins	Pre-galvanized Tubular Purlin 2mm thickness of size 48mm OD or Pre-galvanized Lipped Channel Purlin 10 mm x 40 mm x 60 mm x 10 mm, 2 mm thick, length 4 m	
	Stay	Steel wire rope 6 mm thickness	
	Support cable	Steel wire rope 6 mm thickness	

	Mid Pole	Pre-galvanized Tubular Mid Pole of size 60mm OD having 2 mm thickness	
	Bracing	Pre-galvanized Tubular pipe 33 mm OD 2 mm thick	
	Nut Bolts	Galvanized Nut bolts of Size 3/8", 5/16", ¼", 5mm variable lengths	
	Gable Span	8.0 m	
	Side Height	4 m	
	Centre Height	5 m	
2.	Aluminum Profile	C type Aluminum Locking profile with Zigzag Spring (Galvanized/ Plastic Coated).	
3.	Covering- Insect Proof Net	Insect Net- 40/50 mesh UV stabilized, weight 105-110 grams/ sq. m., material- HDPE, light transmission up to 75% (Side vent width should be min 1.5 m)	
4.	Door	Double doors, FRP/ PVC Foam sheet/ PC sheet doors with 2 m x 2 m sliding door having proper latch arrangement for locking	
5.	Anti-Room	Anti-room of size 4 m x 3 m	
6.	Civil work	Cement concrete 1:2:4 block of size 40 cm x 40 cm x 90 cm for embedding 60 and 75 mm foundation pipe vertical channel foundation.	
7.	Fogger System	Overhead anti-leak four way fogger 28 lph at spacing 2.5 m x 2.5 m spacing, PVC pipe 75 mm, 63 mm x 6 Kg/cm2, PVC ball valve, solenoid valves, electrical cable for solenoid valve, flush valve 63 mm, plastic screen filter 25 m3/hr, fittings	
8	Drip System	Consist of Stake dripper to each bag with 4 ways adopters, micro tube 6 mm, Dripper 4 lph with stake dripper complete assembly, PVC pipe 110 mm, 90 mm x 4 kg/cm2 main and sub main 63 mm x 4 kg/cm2, Sand filter 25 m3/hr, Screen Filter 25 m3/hr,	
9.	Inside Net House-Thermal Net	Thermal Net (Alluminate)- UV stabilized 50%, Shade percentage : 50-54%, Weight (gr/m²) : 58-62, Reflection : 50% along with manual collapsible arrangement and support wires/ cable.	
10	Automation (Common)	Wide Display controller 32 station with software and should have facility to expand 16 stations, fertigation machine with online Ec& pH measurement facility, venturies expandable up to 8 no., UPS, computer, weather station, temperature and humidity sensor, solenoid valves, cable, PVC duct pipe etc. complete.	

IV. Open Field Drip System- 7 Ha Variety Trial Plot (1 Ha each)
V. Open Field Drip System- 1 Ha (Mother Plants-Root Stock)

Sr.	Item	Specification	Cost (Rs.)
1	Spacing	6 m x 4 m	
2	Size	1 Ha each	
3	Total Area	8 Ha	
4	PVC Pipe	PVC Pipe 140 mm x 4 kg/cm2, 110 mm x 4 kg/cm2, 90 mm x 4 kg/cm2, 75 mm x 4 kg/cm2, 63 mm x 4 kg/cm2	
	Laterals	LLDPE 16 mm with wall thickness 0.9 mm	
	Dripper Discharge	4 lph Inline Strip Dripper	
	Dripper Spacing	50 cm	
	No. Of Laterals per row	Two laterals per row	
	Filter Station	100 m3/hr media filter fully automatic in combination with Disc filter 100 m3/hr.	
5	Civil Works	Excavation and back filling of Trenches for pipe line 3 ft below ground.	

VI Automation

Sr.	Item	Specification	Cost (Rs.)
1	Automation	Wide Display controller 32 station with software and should have facility to expand 16 station, fertigation machine with online Ec& pH measurement facility, venturies expandable up to 8 no., UPS, computer, weather station, temperature and humidity sensor, solenoid valves, cable, PVC duct pipe etc. complete.	
2	Weather Station	Automatic weather station measuring temperature , humidity, wind velocity, wind direction rainfall.	
3	Controller	40 OUTPUT ASSEMBLY FOR IRRIGATION HEAD CONTROL INCLUDING PROTECTION UNIT	
4	Solenoid Valve	4", 2.5", 2"	
5	Cable	1.5 mm2 and 2.5 mm2 –SINGLE CORE COPPER CONDUCTOR 24 V	
6	Cable	1.5 MM THREECOREMULTISTRANDWIRE and 1.5 MM DOUBLECOREMULTISTRANDWIRE	
7	Fertgation Machine	Basic model with 3 venturies and expandable up to 8 venturies	
8	Card	COMMUNICATION INTERFACE L485 UNIT (220V)	
9	Water Meter	Water Meter Turbo Bar with Reed 5"	
10	Software	PC Software – USB	
11	Sensor	TEMP./HUM. SENSOR (DRY/WET), IN METAL VENTILATED CELL (24V)	
12	Computer	Personal Computer	
13	UPS	Online UPS 1 KVA with 1 hr. battery backup	
14	Fertilizer Plastic storage tank	Plastic Storage Tanks 500 litre (3 Nos.)	
15	Conduit Pipe	PVC pipe 25 mm X10 kg/cm2	
16	Others	Toggle switch, Voltage Stabilizer, star Delta Timer	

VII. Pumps and Panels

Sr.	Item	Specification	Cost (Rs.)
1	Drip	Supply and installation of suitable pump for open field : Head 35m- 40 m and Discharge as 15 lps	
2	Lift Irrigation	Supply and installation of suitable pump for open field : Head 35m- 40 m and Discharge as 15 lps	
3	Nursery	7.5 Hp, 2 hp x 2 no., 5 Hp	
4	Cable	Suitable Cables for pumps	
5	Panel	Electrical Panel made of MS sheet duly painted, MCB, Relay, Contractors, RYB indicator, Volt Meter, Three way switches (suitable to open field conditions) etc.	
6	Pump Foundations	Construction of pump foundations in CM 1:2:4 for all pumps	

VIII. Water Tank

Sr.	Item	Specification	Cost (Rs.)
1	Capacity	Two Lac Lits	
2	Size	8 m x 9 m x 3 m	
3		Covered with Poly Film 800 micron thick and fixed with angles at sides to prevent the entry of leaves etc.	

IX. Lift Irrigation Pipeline-

Sr.	Item	Specification	Cost (Rs.)
1	Length	900 m	
2	Pipeline	PVC Pipe 140 mm x 4 kg/cm2- laying and jointing	
3	Pump	Flow – 15 lps and Head 15 m	
4	Valves	Gate Valve 6”, Non Return Valve 6”, Double Action Air Release Valve	
5	Civil Works	Excavation and back filling of trenches	
6	Electrical Panel	Electrical Panel made of MS sheet duly painted, MCB, Relay, Contractors, RYB indicator, Volt Meter, Three way switches (suitable to open field conditions) etc.	

X. Mulching Film -

Sr.	Item	Specification	Cost (Rs.)
1	Size	1 m wide on both side of plants	
2	Thickness	25 micron	
3	Colour	Silver/ Black	
4	Area	8 Ha	

XI. Poly Bags -

Sr.	Item	Specification	Cost (Rs.)
1	For Hi- Tech Nursery	15 cm dia and 15 cm height	
2	For Propagation	30 cm dia and 30 cm height for Propagation and net house	
3	For Hardening	30 cm dia and 30 cm height for Propagation and net house	

XII. Coco Peat Media
Supply of Sterile soil less (Coco peat) media

XIII. Digging of Pits and XVI- Filling of pits

Sr.	Item	Specification	Cost (Rs.)
1	Total Pits per Ha	416 no.	
2	Size of Pit	1 m x 1 m x 1 m below ground	
3	Mixture per pit	5 Kg FYM/ vermin-compost, 2 Kg Neem cake, DAP- 0.25 Kg, Thimet- 50 gm,	
4	Filling of pit	Mixing in soil above parameters and filling the pits during plantation	
5	Transplantation	Transplantation of mango plants from nursery	

XIV. Cleaning of site- removal of vegetation, bushes, unwanted trees etc. and levelling of land for Greenhouse, Propagation and net house

XV. Construction of Head Control Room.

Sr.	Item	Specification	Cost (Rs.)
1	Size	6 m x 12 m (6 m x 5.4 m, 6 m x 3 m, 6 m x 3.6 m)	
2	Construction	Brick walls of size 9", door 2 m x 2 m, windows, roof will be made of GI sheet.	
3	Floor	Shahabad floor	

Principal Investigator & Officer Incharge,
Fruit Research Station,
Himayatbagh,Aurangabad

(Stamp of Rs. 100/-or of appropriate value)

Affidavit/Indemnity Bond

My tender for establishment / installment of components of Hi-tech Nursery at Fruit Research Station, Himayatbagh, Aurangabad has been accepted by the Chairman of Tender Committee and Director of Research, VNMKV, Parbhani.

I,Mr.

……..

….. Aged, …… S/O

……. R/o(Address)

……

the supplyer / Manufacturer, agree to abide by and fulfill all terms and conditions included from page No. ___ to ____ of the tender or in default to forfeit the EOI to the Principal Investigator and Officer Incharge Fruit Research Station, Himayatbagh, Aurangabad subsequent upon failure in supply of material due to default.

I am fully aware that in case of any dispute, the decision of the Principal Investigator and Officer Incharge Fruit Research Station, Himayatbagh, Aurangabad shall be final and binding on me.

Signature

Date _____

Full Name _____

Address _____

_____

Ph. _____

Verification

Verified & signed at Aurangabad on this …… (the day) …… (month), 2013

DEPONENT

I know the deponent

Advocate

In presence of

1. Witness; Signature _____

Name _____

Address _____

2. Witness: Signature _____

Name _____

Address _____

Place : Aurangabad

Principal Investigator and
Officer Incharge
F.R.S., Aurangabad

Date :