TENDER DOCUMENT

for

Supply, Installation & Testing
of
Smart Device & IoT Training Kits

NSIC Technical Services Centre
The National Small Industries Corporation Limited
(A Government of India Enterprise)
Okhla Industrial Estate, Phase-3,
Near Govindpuri Metro Station, New Delhi-110020.

Tel No. 011-26826801, 26826847
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NOTICE INVITING TENDER

NSIC Technical Services Centre, Okhla, New Delhi invites sealed tender in two bids system (Technical & Commercial bid in two separate envelopes) from eligible and qualified System Integrators / Assemblers / Reputed & Experienced Firms dealing in Supply, Installation, Testing & Training at site for Smart Device & IoT Training Kits.

The details are summarized below:-

a)	Tender number	Reference number for inviting bids through this tender is NTSC/OK/IoT Training Kits/2018-19.
b)	Purchaser- NSIC Technical Services Centre	The National Small Industries Corporation Ltd. Which is a Government of India Enterprise under the Ministry of Micro, Small & Medium Enterprises.
c)	Usage of Training kits	The purchaser would place the training kits in their educational training centre and shall be utilized for imparting skill and entrepreneurship development training.
d)	Scope of Tender	Supply, Installation, Testing & Training to trainers of Smart Device & IoT Training Kits.
e)	Specification/ details of training kits	The detailed specifications of training kits are specified in tender and placed at **Annexure-A**
f)	Web page for details of tender	Web page: http://www.nsic.co.in/tenders.asp The prospective bidders are advised to remain in touch with the website for any update in respect of this tender.
g)	Locations of supplies	The training kits is proposed to be supplied at NSIC-Technical Services Centers, Okhla Industrial Estate, Phase-3, Near Govindpuri Metro Station, New Delhi-110020.
h)	Earnest Money Deposit (EMD) along with Tender	The EMD of Rs. 22,500/- (Rupees Twenty Two Thousand Five Hundred) shall be submitted along with Technical Bid. The details of mode of payment may be referred from point no. 13(b) of **'Instructions to the Tenderers'**.
i)	Cost of Tender Documents	The tender document can be collected from the office of Centre Head, NSIC-Technical Services Centre, Okhla Industrial Estate, New Delhi in between the period from **31st, December 2018 to 14th, January 2019** (except Saturday & Sunday) between 10:30 hours to 15.45 hours against payment of Rs. 1180/- (Rupees One Thousand Eighty Only) (Non-refundable). The details of mode of payment may be referred from point no. 11(a) of **'Instructions to the Tenderers'**. Alternatively tender form can be downloaded from our website **www.nsic.co.in** from **31st, December 2018 to 14th, January 2019.** In case the tender

		downloaded for submission of offer, the details of submission of tender fee of Rs. 1180/- shall be enclosed with Technical Bid of the tender while submitting the tender.
j)	Exemption from the payment of EMD and Tender fee	The exemption for the payment of EMD as well as tender fee will be applicable to the Udyog Aadhaar/ NSIC/ District Industry Centre registered units for the goods for which the said tender floated.
k)	Last date of submission of tender	**Tender must be delivered to the address mentioned below on or before 14th, January 2019 up to 15.45 hours.** Late bids will be rejected. The Centre Head, NSIC- Technical Services Centre, Okhla Industrial Estate, Phase-3, Near Govindpuri Metro Station, New Delhi-110020.
l)	Date of opening of Technical Bid (Envelope-1)	**The technical bid for the tender shall be opened on 14th, January 2019 at 16.45 hours at the address as under:** The Centre Head, NSIC- Technical Services Centre, Okhla Industrial Estate, Phase-3, Near Govindpuri Metro Station, New Delhi-110020.
m)	Date of opening of Commercial Bid (Envelope-2)	The date for opening second envelope containing Commercial Bid will be intimated to the qualified bidders separately.

Note: In case of any further details required, the same can be collected from the office of Centre Head, NSIC-Technical Services Centre, Okhla Industrial Estate, New Delhi from **31st, December 2018 to 14th, January 2019** (except Saturday & Sunday) between 10:30 hours to 15.45 hours.

Centre Head,
NSIC- Technical Services Centre
New Delhi

ISO 9001 : 2015

INSTRUCTIONS TO THE TENDERERS

The Tender shall be submitted in accordance with these instructions, as under.

1. **Abbreviations:**

   Throughout this tender documents", the word/ term:

   a) "NTSC" means NSIC-Technical Services Centre

   b) "NSIC" means The National Small Industries Corporation Ltd.

   c) "day" means Calendar day

   d) "working day" means Monday to Friday in week

   e) "tender" means tender number NTSC/OK/IOT TRAINING KITS/2018-19

   f) "training kits" means the 'Smart Device & IoT Training Kits' as detailed at Annexure-A.

   g) If context so requires, "singular" means "plural" and vice versa.

   h) "EMD" means Earnest Money Deposit.

   i) "Purchaser" means The National Small Industries Corporation Ltd

   j) "Bid" means the document and financial details submitted by bidder.

   k) "Bidder" means the eligible and qualified System Integrators / Assemblers / Reputed & Experienced Firms.

   l) "Tenderer" means the eligible and qualified System Integrators / Assemblers / Reputed & Experienced Firms.

2. **Eligible Bidder:**

   a) The eligible bidder for this tender are System Integrators / Assemblers / Reputed & Experienced Firms dealing in supply, installation & testing of 'Smart Device & IoT Training Kits'.

   b) System Integrators / Assemblers / Reputed & Experienced Firms shall possess ISO Certificate for their establishment. The copy of the valid ISO Certificate shall be placed with the Technical Bid.

   c) The intending Bidder shall submit a self-declaration on their letter-head, along with the Technical Bid, confirming that they are regular in manufacturing & supplying the similar training kits, as asked in this tender, for the last three (03) years.

3. **Location of supplies:**

   a) The details of location where the training kits supplied through this tender are as under:

#	Location	Address for supplies
1	New Delhi	NSIC- Technical Services Centre, Okhla Industrial Estate, Phase-3, Near Govindpuri Metro Station, New Delhi-110020

b) The bidder is free to inspect the location in the premises before submitting the bid under this tender.

4. Scope of Supplies:

a) The training kits shall be supplied in compliance to the specifications mentioned in Annexure- A of the tender.

b) The specifications of the training kits as mentioned in the Annexure- A are the minimum requirements of tender, however higher specifications of training kits may be considered subject to their cost economics i.e. competitiveness in financial terms for the particular location.

c) After the supply of training kits as mentioned in the Annexure A, the bidder has to execute its installation & testing at the designated site in the location. No extra cost shall be paid for this reason.

d) After the installation & testing of training kits, the training to the local trainer shall be given for ten (10) working days wherein the training about the training kits' operations, maintenance, information about Do's & Don'ts as well as trouble shooting & all other areas which are necessary for smooth functioning of training kits shall be provided to at least two persons designated by purchaser, at site, by the bidder. No extra cost shall be paid to the successful bidder for imparting this training.

e) The bidder shall offer on-site comprehensive warranty of training kits for at least one year from the date of successful installation of training kits at the designated location. The purchaser is not liable to pay any extra charges on any account during warranty period.

f) The bidder shall cover the training kits under Maintenance Contract for two years after the expiry of warranty period without asking for any additional financial charges from purchaser.

5. Pre-dispatch inspection:

A pre-dispatch inspection by 3rd party/ technical team of purchaser may be carried out at bidder's site of manufacturing training kits. This pre-dispatch inspection will not absolve bidder's responsibility to execute supply in accordance with the tender terms.

6. Delivery

a) The purchaser interested for complete delivery of training kits by the bidder within sixty (60) calendar days from the date of issue of supply order. However, the bidder have an option to submit the best delivery time, but in any case the delivery should be before 90 days from the date of issue of supply order by purchaser.

b) The training kits shall be inspected on receipt at site and bidder shall be responsible for any damage during the transit of training kits.

c) The bidder shall not arrange part shipments and/or trans-shipments without the permission of purchaser. The insurance cover including insuring the goods against the loss or damage incidental to manufacture or acquisition, transportation, storage and delivery/Installation shall be obtained by the bidder in his own name

and not in the name of purchaser. The purchaser will as soon as possible but not later than 30 days from the date of arrival of goods at destination shall notify the bidder of any loss or damage to the goods.

d) In case bidder fails to supply within the period of delivery indicated by the bidder in technical bid of this tender, penalty @ 1% of value of the order per week of delay would be levied subject to maximum 4 weeks. It means, the bidder shall have the liability of delayed supply to the maximum of 4 weeks after expiry of scheduled delivery date. After this period Competent Authority of NTSC-Okhla, reserves the right to cancel the supply order. In such case EMD shall be forfeited and bidder may be debarred from participation in any future tenders.

e) The successful Bidder shall, within a week from the date of receipt of communication of acceptance of quotes from purchaser shall intimate his acceptance of the order. The successful bidder shall complete supplies strictly as per the accepted delivery period.

7. Warranty

a) The bidder shall offer on-site comprehensive warranty of training kits for one year from the date of successful installation of training kits at the designated location & shall cover each and every part of the training kits including parts having limited life etc. The purchaser is not liable to pay any extra charges on any account during warranty period.

b) The bidder shall pay to the purchaser such compensations that may arise by reasons of the warranty therein contained but not attended by the bidder.

c) Any part or parts fail or proved defective within the on-site warranty period specified above, owning to defect in design, material or workmanship, the bidder shall have to replace them at the place of installation without asking for any charges.

d) During the warranty period, expert(s) shall be deputed at site by the bidder within three working days from the date of request from purchaser, to rectify and fixing the defects of training kits at the location where training kits supplied. The cost of deputation of expert(s) and any other associated expenditure shall be borne by the bidder.

8. Two years Maintenance Contract

The bidder shall cover the training kits under Maintenance Contract for two years after the expiry of warranty period without claiming any additional financial charges from purchaser. The financial bid for the training kits shall be quoted accordingly.

9. After Sales Services

a) The bidder shall ensure to render after sales services during the warranty period and in the period of Maintenance Contract to the satisfaction of purchaser.

b) The bidder will depute their engineer within three working days to attend the service call received in writing from purchaser.

10. Manuals:

a) The bidder to supply three (3) sets of the following manuals in hard format and one (1) soft format along with training kits:

    i. Installation Manual
    ii. Operation Manual
    iii. Maintenance Manual
    iv. Training Manual

11. Tender documents:

a) The tender document can be collected from the office of Centre Head, NSIC-Technical Services Centre, Okhla Industrial Estate, New Delhi in between the period from **31st, December 2018 to 14th, January 2019** (except Saturday & Sunday) between 10:30 hours to 15.45 hours against payment of Rs. 1180/- (Rupees One Thousand Eighty Only) (Non-refundable).

Alternatively tender form can be downloaded from our website **www.nsic.co.in** from **31st, December 2018 to 14th, January 2019.** In case the tender downloaded for submission of offer, the details of submission of tender document fee of Rs. 1180/- shall be enclosed with Technical Bid of the tender while submitting the tender.

The options to pay/submit tender document fee of Rs. 1180/- are by way of DD (Demand Draft) / RTGS / NEFT to the bank of purchaser as detailed under:

ACCOUNT NAME	BANK NAME	BANK A/C NO.	BANK IFSC CODE
NSIC LTD.-NTSC A/C	PUNJAB NATIONAL BANK, OKHLA, NEW DELHI	0602002100009880	PUNB0060200

The bidder is requested to attach the Bank Statement / RTGS /NEFT Slip or Demand Draft in the Technical Bid, to prove the transfer of payment to the purchaser's Account.

b) At any time prior to the deadline for submission of bids, the Purchaser may amend the Bidding Documents by issuing addendum. The prospective bidders are advised to remain in touch with the Website for any update in respect of this tender.

12. Authorization for submission of tender:

a) The original and all copies of the bid shall be signed by a person duly authorized to sign on behalf of the Bidder. The written confirmation of authorization (in form of letter on the bidder's letter head) to sign on behalf of the bidder confirming the signature as a person duly authorized to sign should be attached with the technical bid of the tender.

b) The person signing the tender form or any other documents on behalf of the Bidder shall be deemed to warrant that he has authority to bind the Bidder. If subsequently comes to light that the person so signed had no authority to do so, the purchaser may without prejudice to any other civil & criminal remedies cancel the tender and hold the Bidder liable for all costs, charges and damages.

13. Earnest Money Deposit:

a) The EMD of Rs. 22,500/-(Twenty Two Thousand Five Hundred Only) shall be submitted in the first envelope super-scribed as "Technical Bid", of prescribed amount by way DD(Demand Draft)/RTGS /NEFT, only for the Training kits quoted by the Bidder. No cash towards EMD shall be accepted. The offers without EMD from the Bidders shall be rejected.

b) The EMD & Tender Document Fee shall be submitted by way of RTGS /NEFT /DD(Demand Draft) only and the bank details of purchaser, are as under:

ACCOUNT NAME	BANK NAME	BANK A/C NO.	BANK IFSC CODE
NSIC LTD.-NTSC A/C	Punjab National Bank, NSIC Bhawan, New Delhi.	0602002100009880	PUNB0060200

The bidder is requested to attach the Bank Statement / RTGS /NEFT Slip or Demand Draft in the Technical Bid, to prove the transfer of payment to the purchaser's Account.

c) EMD and Tender Document Fee submission is exempted for the bidders those having valid registration under Udyog Aadhaar, Single Point Registration Scheme of NSIC and all micro and small enterprises registered with Director of Industries from DIC for the training kits for which this tender issued. To support this, the self-certified scan copy of such valid registration/ exemption certificate is to be attached with technical bid.

d) The Purchaser shall not be liable for payment of any interest on EMD.

e) Any request by the bidders to consider their EMD already furnished by them to any of the other office of the purchaser, for any other contract/ tender will not be considered as EMD for this tender.

f) The EMD will be returned to the unsuccessful bidders soon after the orders are placed on the successful bidder. In case of successful bidder, the EMD will be retailed as a security money by NSIC for the period of twelve months from the date of submission of bill/ invoice for payments.

14. Special Provision for Micro & Small Enterprises:

Micro and Small Enterprises (MSEs) participating in the tender will be given benefit as per Public Procurement Policy, 2012. Further, the MSEs owned by SC/ST entrepreneurs will also be given benefits as per Public Procurement Policy, 2012.

The Definition of MSEs owned by SC/ST is as given under:

(a) In case of proprietary MSE. Proprietor shall be SC/ST.

(b) In case of partnership MSE, the SC/ST partners shall be holding at least 51% shares in the unit.

(c) In case of Private Limited Companies, at least 51% share shall be held by SC/ST promoters.

15. Submission of Tender:

a) The bidder to examine all instructions, forms, terms and specifications in the tender documents and to furnish with its bid all documents or information as required by bidding document.

b) The language for all the correspondence and documents related to the tender shall be in English/ Hindi only. Moreover, the printed literature/technical details for the training kits shall also be in English/ Hindi.

The tender must be placed in a properly sealed bigger envelope addressed to The Centre Head, NSIC-Technical Services Centre, Okhla Industrial Estate, Phase III, Near Govindpuri Metro Station, New Delhi-110020 and the said bigger envelope shall contain two sealed envelopes containing Technical & Commercial bids. The bigger envelope must be super-scribed ***"Tender for Purchase of Smart Device & IoT Training Kits"*** with tender inquiry number and its due date. The two sealed envelopes inside the bigger envelope must be super-scribed as:

Envelope No-1: The said envelope is for technical bid & shall be super-scribed as "Tender for the Supply, Installation & Testing of Smart Device & IoT Training Kits - Technical Bid"

Envelope No-2: The said envelope is for commercial *bid & shall be super-scribed as "Tender for the Supply, Installation & Testing of Smart Device & IoT Training Kits - Commercial Bid".*

c) If both or either of the envelope are not sealed and marked as required, the Purchaser will assume no responsibility for the misplacement or premature opening of the bid.

d) All the columns of the tender shall be duly, properly and exhaustively filled in. Any cutting/over writing etc. in the tender must be signed by the person who is signing the tender.

e) Tenders received in open covers/ letters/ fax/ email will not be considered.

16. Financial Bid Submission:

a) Bidder shall take into account all costs including unloading at the location of purchaser, cartage etc. for giving delivery of material at site as detailed at Para 3 of Instructions to Tenderers before quoting the rates. In this regard no claim what so ever shall be entertained.

b) The price quoted in financial bid shall be firm and shall include all applicable taxes. Any variation in the taxes, duties, levies etc. till the installation of training kits to the location shall be to the bidder's account.

c) No extra payment shall be paid on account of any discrepancy in nomenclature of items. The Bidder shall seek clarifications if any before submitting the tender.

d) No representation for the enhancement of the prices of the accepted tender or alteration of the terms and conditions will be entertained till supplies are completed to the designated location.

17. Last date of submission of Tender:

a) The tender should reach the office of the Centre Head, NSIC-Technical Services Centre, Okhla Industrial Estate, Phase-3, Near Govindpuri Metro Station, New Delhi by 14th, January 2019 up to 15.45 hours.

b) The purchaser may, at its discretion, extend the deadline for the submission of bids by amending the Tender Documents, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended. The prospective bidders are advised to remain in touch with website for any update in respect of their tender.

c) The purchaser shall not consider any bid that arrives after the deadline for submission of bids. Any bid received by the Purchaser after the deadline for submission of bids shall be declared late, rejected and returned unopened to the Bidder.

18. Opening of Technical Bid:

The technical bid of tenders will be opened at NTSC-Okhla on 14th, January 2019 at 16.45 Hours**.** The Bidder or their authorized representative (One person only) may be present at the time of opening of the tender.

19. Opening of Commercial bid

The Commercial Bid of only technically qualified bidders will be opened on the stipulated due date. The date & time for opening of Commercial Bid shall be intimated to the technically qualified bidders through email, after the evaluation of Technical Bid.

20. Validity of tender:

a) The tender shall be valid for a period of 90 days from the date of opening of the Technical Bid of tender. Terms and financial details submitted in the bid shall be treated as firm during the said period of 90 days.

b) In exceptional circumstances, prior to the expiry of the bid validity period, the Purchaser may request bidders to extend the period of validity of their bids. The request and the responses shall be made in writing.

21. Evaluation of Bids:

a) If there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected.

b) If there is an error in a total corresponding to the addition or subtraction of sub totals, the subtotals shall prevail and the total shall be corrected; and

c) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

d) To assist in the examination, evaluation, comparison of the bids and qualification of the Bidders, the Purchaser may, at its discretion, ask any Bidder for a

clarification of its Bid. Any clarification submitted by a Bidder in respect to its Bid and that is not in response to a request by the Purchaser shall not be considered. The Purchaser's request for clarification and the response shall be in writing only.

e) If a Bidder does not provide clarifications of its bid by the date and time set in the Purchaser's request for clarification, its bid may be rejected.

f) The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to supply order, without thereby incurring any liability to Bidders. In case of annulment, all bids submitted and specifically Bid document, EMD deposits shall be promptly returned to the Bidders.

g) The competitiveness of the bid shall be made at NTSC-Okhla.

h) NTSC-Okhla shall compare the evaluated prices of all substantially responsive bids to determine the lowest evaluated bid. The comparison shall be on the basis of landed cost at NTSC-Okhla.

i) At the time the Contract is awarded, the Purchaser may increase the Quantity of training kits without any change in the unit prices or other terms & conditions of the bid and the Bidding Documents subject to the acceptance of bidder in writing for the same.

j) The purchaser have right to verify the particulars furnished by the bidder independently.

22. Earnest money forfeit:

a) If any Bidder withdraws his tender before the period of 90 days from the date opening of technical bid or makes any modifications in the terms and the conditions of the tender which are not acceptable to the purchaser, then the purchaser shall, without prejudice to any other rights or remedy, be at liberty to forfeit the EMD.

b) The EMD will also be forfeited in following cases:

i. If the bidder fails to accept the order based on his offer (bid) and within the prescribed time.

ii. If the bidder fails to supply the Training kits with specifications as mentioned in Annexure –A

iii. If the bidder delays supplies beyond a reasonable time resulting in disruption of project.

iv. Bidder for any reason whatever, withdraws the tender after it is accepted or become unable or fails to execute the orders within stipulated delivery period

v. Submission of misleading/contradictory/false statement or information and fabricated/invalid documents is detected before or after the issue of order to execute the supplies.

vi. The successful bidder does not submit Indemnity Bond within the prescribed time.

23. Notification of award:

Prior to the expiry of the period of bid validity, the purchaser shall notify the successful Bidder, in writing, that its Bid has been accepted. The notification letter shall specify the sum that the Purchaser will pay to the bidder in consideration of the supply of Training kits with the details of location.

24. Packing:

a) The bidder shall provide packing of the training kits, as is required to prevent their damages or deterioration during the transit to their final destination. The packing shall be sufficient to withstand, without limitation, rough handling during transit. In case the consignment received with damaged packaging, the purchaser would not accept the delivery.

b) The training kits shall be securely boxed, crated and protected from mechanical damage, moisture etc. suitable for both storage and transit according to the nature of the material and mode of transport. The bidder shall be responsible for any loss/ damage to material during transportation to the designated location.

25. Payment:

a) The 70% payment of total bill will be made by the purchaser by crossed account payee cheque/RTGS/NEFT for which the bidder shall send bills in duplicate (original + copy) after Supply, Installation & Testing of training kits, giving the reference number of the purchase order along with copies of delivery note & satisfactory report on the Installation of training kits, from designated purchaser department. The details about the designated purchaser department who is authorized to take the delivery of training kits shall inform to successful bidder through the supply order placed for the supply of training kits.

b) The 20% payment of total bill will be released to successful bidder after one month from the date of completion of training to trainers at site and on submission of training completion certificate.

c) The remaining 10% payment will be retained and shall be released against submission of Indemnity bond by the successful bidder for rendering services during warranty period and maintenance period.

26. Causes of rejection of tender:

a) While submitting the tender, if any of the prescribed conditions are not fulfilled or are incomplete in any form, the tender is liable to be rejected.

b) If any Bidder stipulates any condition of his own, such conditional tender is liable to be rejected.

27. Claims:

a) If the training kits supplied are found to be off size and shape different than those in the accepted offer and are of specifications lower than those stipulated in the accepted offer, the purchaser shall have right to totally reject the training kits and/or to claim for compensation from bidder. The bidder shall reimburse to purchaser, the claim lodged in writing within 15 (fifteen) days of its demand. The bidder shall also compensate for losses, if any, sustained by purchaser due to defective packing and/or wrong marking of the training kits/ equipment.

b) The bidder shall be responsible for arranging the rejected training kits/ equipment to be removed at his cost from purchaser premises.

28. Address for communication:

All the communication with respect to the tender shall be addressed to:

> The Centre Head,
> NSIC- Technical Services Centre,
> Okhla Industrial Estate, Phase-3, Near Govindpuri Metro Station,
> New Delhi-110020.

29. Force Majeure:

a) In the event of any unforeseen circumstances directly interfering with the supply of goods/work/service arising during the execution of order such as war, hostilities, acts of the public enemy, civil commotion, sabotage, fires, floods, earthquakes, explosions, epidemics, quarantine restrictions, strikes, lockouts, or acts of God, the Bidder shall, within a week from the commencement thereof, notify the same in writing to the Purchaser with reasonable evidence thereof. Either party shall have the option to terminate the contract on expiry of 90 days of commencement of such force majeure by giving 14 days "notice to the other party in writing. In case of such termination, no damages shall be claimed by either party against the other.

30. Code of Ethics:

The Purchaser as well as the Bidder shall observe the highest standard of ethics including laws against fraud and corruption in force in India namely "Prevention of Corruption Act 1988", during the procurement or execution of such contracts. If the bidders are found in Bid pooling or against law against fraud and corruption then their firms may be blacklisted.

31. Jurisdiction:

In the event of any dispute the legal matter shall be subjected to the jurisdiction of Delhi Court only.

We confirm with our acceptance to the instructions (S.No-1 to 31 above) as given above.

BIDDER'S NAME & SIGNATURE WITH SEAL

These duly signed "Instructions to the Tenders" as under shall be attached with technical bid of the tender as a mark of acceptance of bidder and any tender not confirming the instructions as under is liable to be rejected.

ANNEXURE-A

Details of requirements and technical specifications of training kits

Name of the Training kits: **Smart Device & IoT Training Kits**

#	Description	Unit	Specifications
1	Basic Digital & Analog Electronic Kit	1 no.	**1)** Aluminium Extrusion based mounting table- Length: 450mm, Width: 450mm,Height: 450mm) **2)** FR4 based Coated Dual Sided PCB (Black Mask with White Legends) comprising of components-Switch & LED based 2 input AND Gate Demonstration, Switch & LED based 2 input OR Gate Demonstration, Switch & LED based 2 input NAND Gate Demonstration, Switch & LED based 2 input NOR Gate Demonstration, Switch & LED based NOT Gate Demonstration, Switch & LED based 8:3 Encoder Demonstration, Switch & LED based 3:8 Decoder Demonstration, Switch & LED based 4:1 Multiplexer Demonstration, Switch & LED based 1:4 Demultiplexer Demonstration, Switch & LED based Code Converters, Other Protection Electronic Components, **3)** FR4 based Coated Dual Sided PCB (Black Mask with White Legends) comprising of components (a) Op-Amp based Circuits-Inverting, Amplifier, Non Inverting Amplifier, Summing Amplifier, Comparators (b) 555 Timer Circuits- Astable Operation, Monostable Operation, Bistable Operation(c) Voltage Regulator Circuits-Non Linear Regulator, Linear Regulators (d) Other Protection Electronic Components **4)** 12VDC 2A Power Supply, Connecting Cables and Jumper Wires 5) Simulation Software capable of- Design of basic Analog & Digital Circuits, Visually Display the output of designed circuits, Analysis of the system output in software
2	Arduino Board based Security Access Control Kit	1 no.	**1)** Aluminium Extrusion based mounting table-Length: 450mm, Width: 450mm, Height: 450mm **2)** FR4 based Coated Dual Sided PCB (Black Mask with White Legends) comprising of components-One Arduino UNO Board (detachable), Four LEDs (via DIP Switch) with Pull Down Resistors, Four Switches (via DIP Switch) with Pull Up Resistors, One 8 x 8 Common Cathode LED Panel with encoders, Two RGB LEDs, Two 2-axis Joysticks, Four 5VDC Relays, One 3x4 Keypad, One Alphanumeric LCD Status Indicator, Other Protection Electronic Components **3)** 12VDC 2A Power Supply, Connecting Cables and Jumper Wires **4)** Arduino UNO Controller Board **5)** Arduino IDE Software **6)** Arduino Code Simulator Software capable of- Validation of written code, Connect basic peripherals in the software,Visually display the result of the code compiled **7)** Arduino based Program Libraries for- LED Controlling, LED Chaser Controlling, Switch Controlling, Switch-LED Controlling, Animations on 8x8 LED Panel, RGB LED Controlling, Switch-RGB LED Controlling, 2-Axis Joystick Controlling, Switch-RGB LED-Joystick Controlling, Timer based DC Relay Controlling, Keypad Mapping & Controlling, Alphanumeric LCD Status Printing, Security Access Controlling – Password Matching, Relay Operating, Status LEDs Chaser, Home Animation and RGB LED for welcome.
3	Arduino Board based Smart Home Kit	1 no.	**1)** Aluminium Extrusion based mounting table- Length: 450mm, Width: 450mm, Height: 450mm **2)** FR4 based Coated Dual Sided PCB (Black Mask with White Legends) comprising of components- One Arduino UNO Board (detachable), Interface with two 12V/7A DC Motor Driver H-bridge Circuits, Interface with three Infrared sensors, Interface with two Ultrasonic sensors,

			Interface with two Motion detection sensors, Interface with one Temperature & Humidity sensor, Interface with one Force/Pressure sensor, Interface with two Gas detection sensor (Alcohol & CO2), Interface with one Dust sensor, Interface with one Smoke sensor, Interface with one Heart beat sensor, Interface with two DC geared motors, Interface with one Stepper motor, Interface with one Servo motor, Testing LEDs, Switches & Buzzer, Other Protection Electronic Components, **3)** Following sensors shall be mounted on the table-Three Infrared Sensors, Two Ultrasonic Sensors, Two Motion Detection Sensors, One Temperature & Humidity Sensor, One Force/Pressure Sensor, Two Gas Detection Sensor, One Dust Sensor, One Smoke Sensor, One Heartbeat Sensor, Two DC Geared Motors, One DC Stepper Motor, One DC Servo Motor, Two 5VDC Relay Module **4)** 12VDC 2A Power Supply, Connecting Cables and Jumper Wires **5)** Arduino Code Simulator Software capable of- Validation of written code, Connect basic peripherals in the software, Visually display the result of the code compiled **6)** Arduino based Program Libraries for- Reading, Processing & Displaying Infrared Sensor Data, Reading, Processing & Displaying Ultrasonic Sensor Data, Reading, Processing & Displaying Motion Detection Sensor Data, Reading, Processing & Displaying Temperature Sensor Data, Reading, Processing & Displaying Humidity Sensor Data, Reading, Processing & Displaying Force/Pressure Sensor Data, Reading, Processing & Displaying Gas Detection Sensor Data, Reading, Processing & Displaying Dust Detection Sensor Data, Reading, Processing & Displaying Smoke Detection Sensor Data, Reading, Processing & Displaying Heartbeat Sensor Data, Driving & Controlling Direction of DC Geared Motors, Driving & Controlling Direction of DC Stepper Motors, Driving & Controlling Direction of DC Servo Motors, Comprehensive Program for Smart Home Control including some or all of the above peripherals in a single project such as Switching Lights as per proximity, alerting buzzer on motion sensor or gas/smoke detection, valve opening using servo motor, etc.
4	**Arduino Board based Smart Vehicles Kit**	1 no.	**1)** Aluminium Extrusion based mounting table-Length: 450mm, Width: 450mm, Height: 450mm **2)** FR4 based Coated Dual Sided PCB (Black Mask with White Legends) comprising of components-One Arduino MEGA Board (detachable), Interfacing with one RFID Tags Reader/Writer, Interfacing with one Biometric Identification Sensor, Interfacing with one 128x64 Graphical LCD, Interfacing with one 2.4" Coloured Touch TFT Screen, Interfacing with one VGA Camera Module, Interfacing with one 3-axis Gyroscope sensor, Interfacing with one 3-axis Accelerometer sensor, Interfacing with one Microphone sensor, Interfacing with one Current sensor, Interfacing with two 12V/7A DC Motor Driver, Testing LEDs and Switches, Other Protection Electronic Components **3)** List of sensors shall be mounted on the table - RFID Reader/Writer (MFRC522 module), RFID Cards and Tags, Fingerprint Sensor, 128x64 Graphical LCD, 2.4" Colored Touch TFT, VGA Camera Module, 3-axis Gyroscope sensor, 3-axis Accelerometer Sensor, Current sensor, High Torque DC Geared Motor, Microphone Sensor Module. **4)** 12VDC 2A Power Supply, Connecting Cables and Jumper Wires **5)** Arduino Code Simulator Software capable of-Validation of written code, Connect basic peripherals in the software, Visually display the result of the code compiled. **6)** Arduino based Program Libraries for-Reading, Processing & Displaying RFID Reader/Writer Data, Reading, Processing & Displaying Fingerprint Sensor Data, Reading, Processing & Displaying 3-axis Gyroscope sensor Data, Reading, Processing & Displaying 3-axis Accelerometer sensor Data,

			Reading, Processing & Displaying Microphone sensor Data, Reading, Processing & Displaying VGA Camera sensor Data, Reading, Processing & Displaying Current Sensor Data, Displaying Data and Animations on 128x64 Graphical LCD, Controlling & Displaying 2.4" Colored Touch TFT, Comprehensive Program for Smart Vehicles – Access & Unlock based on Fingerprint, Connected Traffic using RFID, Speed Alert on Graphical LCD using Accelerometer and Accident Detection using Gyroscope, Camera and Microphone integration, etc.
5	**Arduino Board based IoT Connect Kit**	1 no.	**1)** Aluminium Extrusion based mounting table- Length: 450mm, Width: 450mm, Height: 450mm **2)** One Laptop with Core i3 7th Gen processor, 4GB RAM, 320GB Hard Disk and Windows 10. **3)** FR4 based Coated Dual Sided PCB (Black Mask with White Legends) comprising of components- Two Arduino Nano Board (detachable), Interfacing with one HC-05 Bluetooth module, Interfacing with two ESP8826 WiFi module, Interfacing with two NRF 24L01 module, Interfacing with two RF433MHz modules, Interfacing with one SIMCOM900 GSM modem, Interfacing with GPS sensor, Interfacing with two Infrared sensors, Interfacing with one Temperature sensors, Interfacing with two 5VDC Relays, Testing LEDs and Switches, Other Protection Electronic Components **4)** Following sensors shall be mounted on the table- Bluetooth Module HC-05, WiFi Module ESP8826, NRF Module 24L01, Wireless RF Module, GSM Modem SIMCOM900, GPS Sensor Module, Infrared Sensors, Temperature Sensor, 5VDC Relay Modules **5)** 12VDC 2A Power Supply, Connecting Cables and Jumper Wires **6)** Arduino based communication tester software/debugger capable of- Configure settings to establish communication between nodes, Test the communication between the nodes, Debug the connection between the nodes, **7)** Arduino based Program Libraries for- Controlling and Monitoring Data Transfer via Bluetooth Module HC-05, Controlling and Monitoring Data Transfer via WiFi Module ESP8826, Controlling and Monitoring Data Transfer via NRF Module 24L01, Controlling and Monitoring Data Transfer via Wireless RF Module, Controlling and Monitoring Data Transfer via GSM Modem SIMCOM900, Controlling and Monitoring GPS Sensor Data.
6	**Raspberry Pi Board based Hacker's Shell Scripting Practice Kit**	1 no.	**1)** Aluminium Extrusion based mounting table- Length: 450mm, Width: 450mm, Height: 450mm. **2)** Raspberry Pi 3 Computation Board with NOOBS installed Class10 microSD Card. **3)** 7" Raspberry Pi Touch Screen TFT. **4)** Raspberry Pi Camera 5 Mega-Pixel. **5)** Rotatable Mounting 17" LCD Screen. **6)** Standard USB Wired Keyboard with Numeric keys. **7)** Standard USB Wired Mouse with Scroll wheel. **8)** 5V/2A DC Power Supply. **9)** Standard Cables and Wires. **10)** List of Shell Scripts in library- Directory Commands, Pipes and Redirection Commands, File Commands, Echo Commands, Parameter Access Commands, List Sorter/Finder/Compare Commands, if-fi Commands, for Loop Commands, Comprehensive Commands. **11)** List of Python Scripts in library- Output & Input, Handling Variable Types & Casting, Performing String Operations, Using Operators, Understanding List, Tuple, Set, Dictionary, Using If-Else, Using For, While Loops, Creating & Using Functions, Creating & Classes/Objects, Creating & Modules, Using Python PIP, Comprehensive Codes with combination of commands.

7	Raspberry Pi Board based Smart City Centre Kit (Cloud Monitoring, Computing & IoT Data Analytics)	1 no.	1) Aluminium Extrusion based mounting table-Length: 450mm, Width: 450mm, Height: 450mm 2) Raspberry Pi 3 Computation Board with NOOBS installed Class10 microSD Card 3) Rotatable Mounting 17" LCD Screen 4) Standard USB Wired Keyboard with Numeric keys 5) Standard USB Wired Mouse with Scroll wheel 6) 5V/2A DC Power Supply 7) Standard Cables and Wires 8) FR4 based Coated Dual Sided PCB (Black Mask with White Legends) comprising of components-Two Arduino Nano Board (detachable), Interfacing with two Infrared sensors, Interfacing with two Ultrasonic sensors, Interfacing with one Light/Dark sensor, Interfacing with one Gas Detection sensor, Interfacing with one Temperature & Humidity sensors, Interfacing with one Moisture sensor, Interfacing with two 5VDC Relays, Testing LEDs and Switches, Other Protection Electronic Components. 9) List of sensors shall be mounted on the table- Infrared Sensors, Ultrasonic Sensor, Light/Dark Sensor, Gas Detection Sensor, Temperature & Humidity Sensor, Moisture Sensor,5VDC Relay Modules. 10) 12VDC 2A Power Supply, Connecting Cables and Jumper Wires 11) List of Python Scripts in library-Apache Install & Demo, PHP Install & Demo, MySQL Install & Demo, Smart Lighting Solution for Smart City, Smart Parking Solution for Smart City, Smart Traffic Solution for Smart City, Smart Environment Management Solution for Smart City, Smart Water & Waste Management Solution for Smart City.
8	Raspberry Pi Board based Digital Image Processing Kit	1 no.	1) Aluminium Extrusion based mounting table- Length: 300mm, Width: 300 mm, Height: 300mm 2) Raspberry Pi 3 Computation Board with NOOBS installed Class10 microSD Card 3) Raspberry Pi Camera 5 Mega-Pixel 4) Rotatable Mounting 17" LCD Screen 5) Standard USB Wired Keyboard with Numeric keys 6) Standard USB Wired Mouse with Scroll wheel 7) 5V/2A DC Power Supply 8) Standard Cables and Wires 9) List of Python Scripts in library- OpenCV Install & Demo, Pygame Animations, OpenCV Drawing Functions, OpenCV Image Operations, OpenCV Image Filtering, OpenCV Image Transformation, OpenCV Geometric Transformations, OpenCV Shape Descriptors, OpenCV Feature Detection, OpenCV Object Detection, Comprehensive Codes for Smart Waste Management solution and Smart City Traffic Management Solutions
9	Raspberry Pi Board based Video Processing & Augmented Reality Kit	1 No.	1) Aluminium Extrusion based mounting table-Length: 300mm, Width: 300mm, Height: 300mm 2) Raspberry Pi 3 Computation Board with NOOBS installed Class10 microSD Card 3) Raspberry Pi Camera 5 MegaPixel 4) Rotatable Mounting 17" LCD Screen 5) Standard USB Wired Keyboard with Numeric keys 6) Standard USB Wired Mouse with Scroll wheel 7) 5V/2A DC Power Supply 8) Standard Cables and Wires 9) List of Python Scripts in library-OpenCV Install & Demo, OpenCV Object Detection, OpenCV Motion Detection, OpenCV Object Tracking, OpenCV Live Person Counter, OpenSpace 3D Install & Demo, Infotainment Scenes in Augmented Reality, Personal Shopping Scenes in Augmented Reality, Comprehensive Codes for Smart Education using Augmented Reality

10	**Raspberry Pi Board based Artificial Intelligence Developer Kit**	**1 No.**	**1)** Aluminium Extrusion based mounting table- Length: 300mm, Width: 300mm, Height: 300mm **2)** One Laptop with Core i3 7th Gen processor, 4GB RAM, 320GB Hard Disk and Linux OS Ubuntu. **3)** Raspberry Pi 3 Computation Board with NOOBS installed Class10 microSD Card **4)** Raspberry Pi Microphone **5)** Small USB Speakers **6)** Rotatable Mounting 17" LCD Screen **7)** Standard USB Wired Keyboard with Numeric keys **8)** Standard USB Wired Mouse with Scroll wheel **9)** 5V/2A DC Power Supply **10)** Standard Cables and Wires **11)** List of Python Scripts in library- Speech Recognition, Speech to Text Conversion, Text to Speech Conversion, PyTorch Install & Demo, PyTorch Neural Networks, PyTorch Classifier Training & Validation, PyTorch based Chatbot
11	**Various Development Board Kit**	**1 No.**	**1)** Aluminium Extrusion based mounting table- Length: 450mm, Width: 450mm, Height: 450mm **2)** AVR ATMEGA32 Microcontroller Development Board **3)** PIC PIC18F4550 Microcontroller Development Board **4)** ARM LPC2148 Microprocessor Development Board **5)** STM32F103ZE Microprocessor Development Board **6)** 12VDC 2A Power Supply, Connecting Cables and Jumper Wires **7)** Standard Libraries for controlling & debugging Boards-LED Controlling, Switches Controlling, LCD Controlling, Analog Controlling, DC Motor Controlling, Comprehensive Codes for multiple Input Output controlling

ANNEXURE -B

(Undertaking from Bidder on their official stationery)

To,
The Centre Head
NSIC- Technical Services Centre,
Okhla Industrial Estate, New Delhi-110020

Sir,

Subject: Undertaking for the participation to the tender No. NTSC/OK/IOT TRAINING KITS/2018-19 Due for opening of technical bid on 14th, January 2019

Dear Sir,

HAVING EXAMINED AND PERUSED THE FOLLOWING DOCUMENTS

1. Notice Inviting Tender
2. Instruction To The Tenderer
3. Technical Specifications of training kits (Annexure-A)
4. Annexure – C (Technical Bid)
5. Annexure- D (Commercial Bid)

I/We ……………………………..do hereby submit the above tender in prescribed formats duly completed in all respects in accordance with the conditions applicable. If this tender is accepted, I/We agree to abide by and fulfill all the terms and conditions in the tender documents

I/We hereby distinctly and expressly declare and acknowledge that before the submission of this tender, I/We have carefully followed the instructions and I/We have understood the existing system of supply at the location of purchaser including the scope and nature of duties expected from the Bidder.

I/We distinctly agree that I/We would hereafter make no claim or demand upon the purchaser based upon or arising out of any alleged misunderstanding or misconceptions or mistake on my/our part of the said stipulations, restrictions and conditions.

I/ We declare that our unit has never made any default in supplying the training kits/ equipment to Government / Semi Government/ Central or State Public sector enterprise(s) in terms of quality and financial agreed supply conditions.

Any notice required to be served on me/us shall be sufficiently served on me/us by post (registered or ordinary) or courier or left at my/our address furnished herein.

…….
………………………………………………………………………………………………………...

I/We fully understand the terms and conditions in the tender documents.
I/We understood that the purchaser is not bound to accept any proposal that it may receive without assigning any reason.

Dated this…………………………………day of…………………..……2018/2019

Authorized Signatory
Seal:

ANNEXURE-C

FORMAT & REQUIREMENTS FOR SUBMITTING TECHNICAL BID

1. **Tender Ref. No**: NTSC/OK/IOT TRAINING KITS/2018-19
2. **Name of Bidder**: ……………………………………………………………….
3. **Complete office address of Bidder**……………………………………………………
4. **Tender fee payment details** (*if tender document downloaded from website*)
   Details of DD/RTGS/NEFT by which tender fee paid………………………………………
5. **Confirmation of acceptance of Technical Specifications for the supply of training kits**:
6.

#	Technical Specifications	Quantity	Acceptance to the Specification as placed at Annexure-A and agreed to supply with required Quantity (write YES/ NO only)	If marked "NO" in the column before, specify the deviation in specification of the training kits offered for the supply.
1	**Basic Digital & Analog Electronic Kit:** **1)** Aluminium Extrusion based mounting table- Length: 450mm, Width: 450mm, Height: 450mm) **2)** FR4 based Coated Dual Sided PCB (Black Mask with White Legends) comprising of components-Switch & LED based 2 input AND Gate Demonstration, Switch & LED based 2 input OR Gate Demonstration, Switch & LED based 2 input NAND Gate Demonstration, Switch & LED based 2 input NOR Gate Demonstration, Switch & LED based NOT Gate Demonstration, Switch & LED based 8:3 Encoder Demonstration, Switch & LED based 3:8 Decoder Demonstration, Switch & LED based 4:1 Multiplexer Demonstration, Switch & LED based 1:4 Demultiplexer Demonstration, Switch & LED based Code Converters, Other Protection Electronic Components, **3)** FR4 based Coated Dual Sided PCB (Black Mask with White Legends) comprising of components (a) Op-Amp based Circuits- Inverting, Amplifier, Non Inverting Amplifier, Summing Amplifier, Comparators (b) 555 Timer Circuits- Astable Operation, Monostable Operation, Bistable Operation(c) Voltage Regulator Circuits-Non Linear Regulator, Linear Regulators (d) Other Protection Electronic Components **4)** 12VDC 2A Power Supply, Connecting Cables and Jumper Wires **5)** Simulation Software capable of- Design of basic Analog & Digital Circuits, Visually Display	1 No.		

	the output of designed circuits, Analysis of the system output in software			
2	**Arduino Board based Security Access Control Kit:** **1)** Aluminium Extrusion based mounting table- Length: 450mm, Width: 450mm, Height: 450mm **2)** FR4 based Coated Dual Sided PCB (Black Mask with White Legends) comprising of components-One Arduino UNO Board (detachable), Four LEDs (via DIP Switch) with Pull Down Resistors, Four Switches (via DIP Switch) with Pull Up Resistors, One 8 x 8 Common Cathode LED Panel with encoders, Two RGB LEDs, Two 2-axis Joysticks, Four 5VDC Relays, One 3x4 Keypad, One Alphanumeric LCD Status Indicator, Other Protection Electronic Components **3)** 12VDC 2A Power Supply, Connecting Cables and Jumper Wires **4)** Arduino UNO Controller Board **5)** Arduino IDE Software **6)** Arduino Code Simulator Software capable of- Validation of written code, Connect basic peripherals in the software, Visually display the result of the code compiled **7)** Arduino based Program Libraries for- LED Controlling, LED Chaser Controlling, Switch Controlling, Switch-LED Controlling, Animations on 8x8 LED Panel, RGB LED Controlling, Switch-RGB LED Controlling, 2-Axis Joystick Controlling, Switch-RGB LED-Joystick Controlling, Timer based DC Relay Controlling, Keypad Mapping & Controlling, Alphanumeric LCD Status Printing, Security Access Controlling – Password Matching, Relay Operating, Status LEDs Chaser, Home Animation and RGB LED for welcome.	**1 No.**		
3	**Arduino Board based Smart Home Kit:** **1)** Aluminium Extrusion based mounting table- Length: 450mm, Width: 450mm, Height: 450mm **2)** FR4 based Coated Dual Sided PCB (Black Mask with White Legends) comprising of components- One Arduino UNO Board (detachable), Interface with two 12V/7A DC Motor Driver H-bridge Circuits, Interface with three Infrared sensors, Interface with two Ultrasonic sensors, Interface with two Motion detection sensors, Interface with one Temperature & Humidity sensor, Interface with one Force/Pressure sensor, Interface with two Gas detection sensor (Alcohol & CO2), Interface with one Dust sensor, Interface with one Smoke sensor, Interface with one Heart beat sensor, Interface with two DC geared motors, Interface with one Stepper motor, Interface with one Servo motor, Testing LEDs, Switches & Buzzer,	**1 No.**		

	Other Protection Electronic Components, **3)** Following sensors shall be mounted on the table- Three Infrared Sensors, Two Ultrasonic Sensors, Two Motion Detection Sensors, One Temperature & Humidity Sensor, One Force/Pressure Sensor, Two Gas Detection Sensor, One Dust Sensor, One Smoke Sensor, One Heartbeat Sensor, Two DC Geared Motors, One DC Stepper Motor, One DC Servo Motor, Two 5VDC Relay Module **4)** 12VDC 2A Power Supply, Connecting Cables and Jumper Wires **5)** Arduino Code Simulator Software capable of- Validation of written code, Connect basic peripherals in the software, Visually display the result of the code compiled **6)** Arduino based Program Libraries for- Reading, Processing & Displaying Infrared Sensor Data, Reading, Processing & Displaying Ultrasonic Sensor Data, Reading, Processing & Displaying Motion Detection Sensor Data, Reading, Processing & Displaying Temperature Sensor Data, Reading, Processing & Displaying Humidity Sensor Data, Reading, Processing & Displaying Force/Pressure Sensor Data, Reading, Processing & Displaying Gas Detection Sensor Data, Reading, Processing & Displaying Dust Detection Sensor Data, Reading, Processing & Displaying Smoke Detection Sensor Data, Reading, Processing & Displaying Heartbeat Sensor Data, Driving & Controlling Direction of DC Geared Motors, Driving & Controlling Direction of DC Stepper Motors, Driving & Controlling Direction of DC Servo Motors, Comprehensive Program for Smart Home Control including some or all of the above peripherals in a single project such as Switching Lights as per proximity, alerting buzzer on motion sensor or gas/smoke detection, valve opening using servo motor, etc.			
4	**Arduino Board based Smart Vehicles Kit:** **1)** Aluminium Extrusion based mounting table- Length: 450mm, Width: 450mm, Height: 450mm **2)** FR4 based Coated Dual Sided PCB (Black Mask with White Legends) comprising of components-One Arduino MEGA Board (detachable), Interfacing with one RFID Tags Reader/Writer, Interfacing with one Biometric Identification Sensor, Interfacing with one 128x64 Graphical LCD, Interfacing with one 2.4" Coloured Touch TFT Screen, Interfacing with one VGA Camera Module, Interfacing with one 3-axis Gyroscope sensor, Interfacing with one 3-axis Accelerometer sensor, Interfacing with one Microphone sensor, Interfacing with one Current sensor, Interfacing with two 12V/7A DC Motor Driver, Testing LEDs and Switches, Other Protection Electronic Components	**1 No.**		

	3) Following sensors shall be mounted on the table- RFID Reader/Writer (MFRC522 module), RFID Cards and Tags, Fingerprint Sensor, 128x64 Graphical LCD, 2.4" Colored Touch TFT, VGA Camera Module, 3-axis Gyroscope sensor, 3-axis Accelerometer Sensor, Current sensor, High Torque DC Geared Motor, Microphone Sensor Module. **4)** 12VDC 2A Power Supply, Connecting Cables and Jumper Wires **5)** Arduino Code Simulator Software capable of-Validation of written code, Connect basic peripherals in the software, Visually display the result of the code compiled. **6)** Arduino based Program Libraries for-Reading, Processing & Displaying RFID Reader/Writer Data, Reading, Processing & Displaying Fingerprint Sensor Data, Reading, Processing & Displaying 3-axis Gyroscope sensor Data, Reading, Processing & Displaying 3-axis Accelerometer sensor Data, Reading, Processing & Displaying Microphone sensor Data, Reading, Processing & Displaying VGA Camera sensor Data, Reading, Processing & Displaying Current Sensor Data, Displaying Data and Animations on 128x64 Graphical LCD, Controlling & Displaying 2.4" Colored Touch TFT, Comprehensive Program for Smart Vehicles – Access & Unlock based on Fingerprint, Connected Traffic using RFID, Speed Alert on Graphical LCD using Accelerometer and Accident Detection using Gyroscope, Camera and Microphone integration, etc.			
5	**Arduino Board based IoT Connect Kit:** **1)** Aluminium Extrusion based mounting table-Length: 450mm, Width: 450mm, Height: 50mm **2)** One Laptop with Core i3 7th Gen processor, 4GB RAM, 320GB Hard Disk and Windows 10. **3)** FR4 based Coated Dual Sided PCB (Black Mask with White Legends) comprising of components- Two Arduino Nano Board (detachable), Interfacing with one HC-05 Bluetooth module, Interfacing with two ESP8826 WiFi module, Interfacing with two NRF 24L01 module, Interfacing with two RF433MHz modules, Interfacing with one SIMCOM900 GSM modem, Interfacing with GPS sensor, Interfacing with two Infrared sensors, Interfacing with one Temperature sensors, Interfacing with two 5VDC Relays, Testing LEDs and Switches, Other Protection Electronic Components **4)** Following sensors shall be mounted on the table- Bluetooth Module HC-05, WiFi Module ESP8826, NRF Module 24L01, Wireless RF Module, GSM Modem SIMCOM900, GPS Sensor Module, Infrared Sensors, Temperature Sensor, 5VDC Relay Modules **5)** 12VDC 2A Power Supply, Connecting Cables and Jumper Wires **6)** Arduino based communication tester	1 No.		

	software/debugger capable of-Configure settings to establish communication between nodes, Test the communication between the nodes, Debug the connection between the nodes, **7)** Arduino based Program Libraries for-Controlling and Monitoring Data Transfer via Bluetooth Module HC-05, Controlling and Monitoring Data Transfer via WiFi Module ESP8826, Controlling and Monitoring Data Transfer via NRF Module 24L01, Controlling and Monitoring Data Transfer via Wireless RF Module, Controlling and Monitoring Data Transfer via GSM Modem SIMCOM900, Controlling and Monitoring GPS Sensor Data.			
6	**Raspberry Pi Board based Hacker's Shell Scripting Practice Kit:** **1)** Aluminium Extrusion based mounting table-Length: 450mm, Width: 450mm, Height: 450mm. **2)** Raspberry Pi 3 Computation Board with NOOBS installed Class10 microSD Card. **3)** 7" Raspberry Pi Touch Screen TFT. **4)** Raspberry Pi Camera 5 Mega-Pixel. **5)** Rotatable Mounting 17" LCD Screen. **6)** Standard USB Wired Keyboard with Numeric keys. **7)** Standard USB Wired Mouse with Scroll wheel. **8)** 5V/2A DC Power Supply. **9)** Standard Cables and Wires. **10)** Following Shell Scripts in library- Directory Commands, Pipes and Redirection Commands, File Commands, Echo Commands, Parameter Access Commands, List Sorter/Finder/Compare Commands, if-fi Commands, for Loop Commands, Comprehensive Commands. **11)** Following Python Scripts in library- Output & Input, Handling Variable Types & Casting, Performing String Operations, Using Operators, Understanding List, Tuple, Set, Dictionary, Using If-Else, Using For, While Loops, Creating & Using Functions, Creating & Classes/Objects, Creating & Modules, Using Python PIP, Comprehensive Codes with combination of commands.	1 No.		
7	**Raspberry Pi Board based Smart City Centre Kit (Cloud Monitoring, Computing & IoT Data Analytics):** **1)** Aluminium Extrusion based mounting table-Length: 450mm, Width: 450mm, Height: 450mm **2)** Raspberry Pi 3 Computation Board with NOOBS installed Class10 microSD Card **3)** Rotatable Mounting 17" LCD Screen **4)** Standard USB Wired Keyboard with Numeric keys **5)** Standard USB Wired Mouse with Scroll wheel **6)** 5V/2A DC Power Supply **7)** Standard Cables and Wires **8)** FR4 based Coated Dual Sided PCB (Black Mask with White Legends) comprising of	1 No.		

	components-Two Arduino Nano Board (detachable), Interfacing with two Infrared sensors, Interfacing with two Ultrasonic sensors, Interfacing with one Light/Dark sensor, Interfacing with one Gas Detection sensor, Interfacing with one Temperature & Humidity sensors, Interfacing with one Moisture sensor, Interfacing with two 5VDC Relays, Testing LEDs and Switches, Other Protection Electronic Components. **9)** Following sensors shall be mounted on the table- Infrared Sensors, Ultrasonic Sensor, Light/Dark Sensor, Gas Detection Sensor, Temperature & Humidity Sensor, Moisture Sensor, 5VDC Relay Modules. **10)** 12VDC 2A Power Supply, Connecting Cables and Jumper Wires **11)** Following Python Scripts in library-Apache Install & Demo, PHP Install & Demo, MySQL Install & Demo, Smart Lighting Solution for Smart City, Smart Parking Solution for Smart City, Smart Traffic Solution for Smart City, Smart Environment Management Solution for Smart City, Smart Water & Waste Management Solution for Smart City.			
8	**Raspberry Pi Board based Digital Image Processing Kit:** **1)** Aluminium Extrusion based mounting table-Length: 300mm, Width: 300 mm, Height: 300mm **2)** Raspberry Pi 3 Computation Board with NOOBS installed Class10 microSD Card **3)** Raspberry Pi Camera 5 Mega-Pixel **4)** Rotatable Mounting 17" LCD Screen **5)** Standard USB Wired Keyboard with Numeric keys **6)** Standard USB Wired Mouse with Scroll wheel **7)** 5V/2A DC Power Supply **8)** Standard Cables and Wires **9)** Following Python Scripts in library- OpenCV Install & Demo, Pygame Animations, OpenCV Drawing Functions, OpenCV Image Operations, OpenCV Image Filtering, OpenCV Image Transformation, OpenCV Geometric Transformations, OpenCV Shape Descriptors, OpenCV Feature Detection, OpenCV Object Detection, Comprehensive Codes for Smart Waste Management solution and Smart City Traffic Management Solutions	1 No.		
9	**Raspberry Pi Board based Video Processing & Augmented Reality Kit:** **1)**Aluminium Extrusion based mounting table-Length: 300mm, Width: 300mm, Height: 300mm **2)** Raspberry Pi 3 Computation Board with NOOBS installed Class10 microSD Card **3)** Raspberry Pi Camera 5 Mega-Pixel **4)** Rotatable Mounting 17" LCD Screen **5)** Standard USB Wired Keyboard with Numeric	1 No.		

	keys **6)** Standard USB Wired Mouse with Scroll wheel **7)** 5V/2A DC Power Supply **8)** Standard Cables and Wires **9)** Following Python Scripts in library-OpenCV Install & Demo, OpenCV Object Detection, OpenCV Motion Detection, OpenCV Object Tracking, OpenCV Live Person Counter, OpenSpace 3D Install & Demo, Infotainment Scenes in Augmented Reality, Personal Shopping Scenes in Augmented Reality, Comprehensive Codes for Smart Education using Augmented Reality			
10	**Raspberry Pi Board based Artificial Intelligence Developer Kit:** **1)** Aluminium Extrusion based mounting table-Length: 300mm, Width: 300mm, Height: 300mm **2)** One Laptop with Core i3 7th Gen processor, 4GB RAM, 320GB Hard Disk and Linux OS Ubuntu. **3)** Raspberry Pi 3 Computation Board with NOOBS installed Class10 microSD Card **4)** Raspberry Pi Microphone **5)** Small USB Speakers **6)** Rotatable Mounting 17" LCD Screen **7)** Standard USB Wired Keyboard with Numeric keys **8)** Standard USB Wired Mouse with Scroll wheel **9)** 5V/2A DC Power Supply **10)** Standard Cables and Wires **11)** Following Python Scripts in library- Speech Recognition, Speech to Text Conversion, Text to Speech Conversion, PyTorch Install & Demo, PyTorch Neural Networks, PyTorch Classifier Training & Validation, PyTorch based Chatbot	**1 No.**		
11	**Various Development Board Kit:** **1)** Aluminium Extrusion based mounting table-Length: 450mm, Width: 450mm, Height: 450mm **2)** AVR ATMEGA32 Microcontroller Development Board **3)** PIC PIC18F4550 Microcontroller Development Board **4)** ARM LPC2148 Microprocessor Development Board **5)** STM32F103ZE Microprocessor Development Board **6)** 12VDC 2A Power Supply, Connecting Cables and Jumper Wires **7)** Standard Libraries for controlling & debugging Boards-LED Controlling, Switches Controlling, LCD Controlling, Analog Controlling, DC Motor Controlling, Comprehensive Codes for multiple Input Output controlling.	**1 No.**		

7. **Confirmation for supply to the location:**

#	Details	Location
		NTSC-Okhla, New Delhi
		Smart Device & IoT Training Kits
1	Tentative quantity required at location	
2	Consent to supply: (write YES/ NO only in the cells placed under)	

8. **EMD payment details** (*Not applicable if the bidder is holding* valid registration/ exemption certificate*, as per Para 14 (c) of Instruction to Tenderers)*: Details of DD/RTGS/NEFT by which EMD paid……………………………………………………………….

    The EMD of Rs.22, 500/- (Rupees Twenty Two Thousand Five Hundred Only) shall be shall be submitted.

9. **PAN Number of bidder** (self-attested copy to be enclosed)…………………………………..

10. **GSTIN registration number of bidder** (self-attested copy to be enclosed)………………………………

11. **Delivery period after receipt of supply order from purchaser:** *(The purchaser interested for complete delivery of training kits by the bidder within sixty (60) calendar days from the date of issue of supply order.* However, the bidder have an option to submit the best delivery time, but in any case the delivery should be before 90 days from the date of issue of supply order by purchaser*.* Delivery to be completed in number of days…………………………….(Calendar Days In figure)………………………..(Calendar Days in words) for delivery from the date of issue of supply order by purchaser.

12. **Detail of address with contact detail from where the bidder planned to offer 'After Sales Services' during the Warranty & after warrantee Maintenance period:**

#	Location
	NTSC-Okhla, New Delhi
Details of address of bidder for rendering After Sales Services	

13. **Details of address with contact details for at least three purchaser to whom the bidder supplied similar training kits in the last three (3) years and training kits shall be in operations to the satisfaction of buyer for the last three (3) years:** *The format for submission of details for at least three purchaser are as under: (the bidder can furnish details of even more than three purchaser)*

    a. Address of Purchaser with contact details (email and phone no.):……………

    b. Details of order for supply placed to bidder:…………………………….

    c. Description and quantity of ordered equipment:……………………………….

    d. Value of order in rupees:…………………………………….

    e. Date of completion of delivery:……………………………………….

(The purchaser shall have liberty to contact any or all of purchaser to assess the performance of training kits supplied by bidder)

14. **Documents - Details to be enclosed with the Technical bid by bidder are as under:**

a) In case the bidder is System Integrators / Assemblers / Reputed & Experienced Firms shall submit a self-declaration on their letter-head, confirming that they are regular in manufacturing & supplying the similar training kits, as asked in this tender, for the last three (03) years

b) System Integrators / Assemblers / Reputed & Experienced Firms shall possess ISO Certificate for their establishment. The copy of the valid ISO Certificate shall be placed with the Technical Bid.

c) Undertaking as per annexure-B on official stationery.

d) Duly signed all pages "Instructions to Tenderers" of the tender document as a mark of acceptance.

e) The letters substantiating performance from at least three (03) other purchasers, to whom, the similar training kits supplied by the bidder in last three (03) years, wherein, the training kits shall be in operation to the satisfaction of buyer for the last three (03) years, to access performance of the training kits supplied by your organization.

f) Technical Literature of training kits with particular reference to the model of training kits proposed to supply against this tender along with reference of website to assess the further features.

g) Authorization letter in favor of personnel to sign the tender behalf of bidder.

h) Self-attested copy of valid certificate for claiming EMD exemption.

i) Self-attested copy of valid certificate for claiming Tender Fee exemption.

j) Self-attested copy of valid GST registration.

k) Self-attested copy of valid PAN number.

l) The Bidders shall furnish complete Technical details of training kits for the training kits offered to supply through the participation of this tender (use separate sheet to elaborate the details of technical specifications such as Measuring Range/Size, Least Count/Resolution, Accuracy, Materials used, Accessories, Tools, Spares etc.)

m) To submit all supporting information with respect to the technical data, drawings or booklets of product. Any product brief, test certificates available may be enclosed.

    I/We as bidder certify that:

a. The tender shall remain valid for acceptance for 90 days from the date of opening the Technical Bid of the tender.

b. Agree to offer services for onsite comprehensive warranty of one year on the training kits supplied through this tender.
c. Agree to offer services for maintenance contract for the next two years for the training kits supplied through this tender.
d. Agree to impart onsite training to the designated personnel of purchase for 10 working days
e. No price of any Training kits/ Equipment/ Spares/ Accessories shall be given in Technical Bid.
f. All above training kits should be provided with safety features/ curtains etc. wherever applicable.
g. Units should certify that all consumables, electrical and electronic parts of the product conform to national/ international standard(s).

Name & Signature of the authorized bidder with stamp
Contact details of authorized person of bidder who have signed the tender.

Name…………………………………………………..

Designation…………………………………………….

Phone (office)…………………………………………..

Phone (Mobile)………..………………...........

E mail…………………………………………………..

Annexure –"D"

FORMAT & REQUIREMENTS FOR SUBMITTING COMMERCIAL BID

1. Tender Ref. No: NTSC/OK/IOT TRAINING KITS/2018-19

2. Name of the Bidder: ……………………………………..

3. The financial offer to execute the supply as per the tender:

(Offered financials for the Supply, Installation & Testing at site & Training to trainers with commitment to offer on site after sales Services in the period of Warranty and maintenance contract for the Smart Device & IoT Training Kits to supply, as agreed in technical bid of tender ref. no: NTSC/NSIC/SMART DEVICE & IOT TRAINING KITS / 2018-19)

#	Details	Basic price for supply of single unit. (In Rs.)	Tax (GST & Other Taxes)	Quantity to be supplied (In No.)	Total basic price (Sum of column no 2 and 3) (In Rs.)
	1	**2**	**3**	**4**	**5 (2+3)**
1	**Basic Digital & Analog Electronic Kit**			1 No.	
2	**Arduino Board based Security Access Control Kit**			1 No.	
3	**Arduino Board based Smart Home Kit**			1 No.	
4	**Arduino Board based Smart Vehicles Kit**			1 No.	
5	**Arduino Board based IoT Connect Kit**			1 No.	
6	**Raspberry Pi Board based Hacker's Shell Scripting Practice Kit**			1 No.	
7	**Raspberry Pi Board based Smart City Centre Kit (Cloud Monitoring, Computing & IoT Data Analytics)**			1 No.	
8	**Raspberry Pi Board based Digital Image Processing Kit**			1 No.	
9	**Raspberry Pi Board based Video Processing & Augmented Reality Kit**			1 No.	
10	**Raspberry Pi Board based Artificial Intelligence Developer Kit**			1 No.	

11	**Various Development Board Kit**			1 No.	
b	Total landed cost for the supply of total training kits as detailed at row "a" above to the location at the New Delhi (In Rs.)				
c	Total landed cost for the supply of total training kits as detailed at row "a" above to the location at the New Delhi **(In words)**……………………………………………… ……… ……… ………				

The followings to be noted while submitting financial details for the supply of training kits:

a. The bidder shall offer competitive offer for NTSC-Okhla location.

b. The bidder will not be entitled to any increase in rate of taxes occurring during the period of delivery even if there is delay in supplies / completion attributed to him.

c. The Total Cost quoted above should be inclusive of basic price, statutory levies and taxes, duties, Transportation, Incidental Services (including Insurance, Loading/ Unloading, Packing & Forwarding charges etc.), Installation, Testing, Demonstration & Training, on-site warranty and maintenance contract.

d. The price competiveness shall be given due consideration while analyzing the Commercial Bid.

I/We as bidder certify that:

a. The tender shall remain valid for acceptance for 90 days from the date of opening the Technical Bid of the tender.

b. Agree to offer services for onsite comprehensive warranty of one year on the training kits supplied through this tender.

c. Agree to offer services for maintenance contract for the next two years for the training kits supplied through this tender.

d. Agree to impart onsite training to the designated personnel of purchase for 10 working days

e. Agree to three (3) sets of the Installation, Operation, Maintenance, Training Manual with training kits

f. Agree that the offer price is valid for the period of 90 days from the date of opening of technical bid of this tender.

Further confirm that we agree with the terms and conditions specified in "Instructions to Tenderers" and if selected, the execution of supplies would be made in compliance.

Name & Signature of the authorized bidder with stamp
Contact details of authorized person of bidder who have signed the tender.

Name…………………………………………………..

Designation…………………………………………….

Phone (office)…………………………………………..

Phone (Mobile)………..........................

E mail…………………………………………………..

Seal/Stamp …………………………………………………