



# Chhattisgarh State Renewable Energy Development Agency (CREDA)

(Dept. of Energy, Govt. of Chhattisgarh)
Near Energy Education Park, Village Fundhar
VIP (Air Port Road) Raipur - 492015 (C.G.)

E-mail: info@creda.in, Website: creda.co.in

EOI No. 303 /CREDA/SI/VENDOR/CONTRACTOR REGISTRATION/ 2020, Date 01-05-2020

Expression of Interest for Empanelment of System Integrators/ Vendors/ Contractors with CREDA to work as channel partner for implementing Solar Photovoltaic/Solar Thermal applications in Market Mode in the state of Chhattisgarh as per the scope of work and guidelines of CREDA.

#### E.O.I. Document Cost- Rs 1000.00

Document can also be downloaded from our website **creda.cgstate.gov.in with** the cost of Document as mentioned in EOI, which shall have to be deposited along with the EOI document



# 1. Application

This application document is for Empanelment of System Integrators/Vendors/ contractors with CREDA to work as channel partner for implementing Solar PV / Solar Thermal applications in Market/ Project mode in the state of Chhattisgarh as per the scope of work and guidance of CREDA. Interested applicant may download the document from the website <a href="www.creda.co.in">www.creda.co.in</a>

#### 2. Fee Structure:

S.No.	Particulars	Fees	Remarks
А	Registration fee for New Candidate for a single Category for S.I.	Rs 1,00,000.00	Non Refundable
В	Registration fee for New Candidate for a single Category for Vendor	Rs. 30,000.00	Non Refundable
С	Registration fee for New Candidate for a single Category for Civil/ Electrical Contractor	Rs 30,000.00	Non Refundable
D	Registration fee for New Candidate for Multiple Categories	Rs 1,30,000.00	Non Refundable
E	New Registration fee for Graduate Engineers of CG State only for a single Category	Rs 25,000.00	Non Refundable
F	New Registration fee for Graduate Engineers of CG State only for a multiple Category	Rs 40,000.00	Non Refundable
G	Earnest Money Deposit (EMD) For SI/VENDOR	Rs 2,00,000.00	Refundable* (May be deposited in the form of DD/
Н	Earnest Money Deposit (EMD) for Civil / Electrical Contractors	Rs 50,000.00	RTGS/NEFT in the name of CREDA
I	Renewal of Registration for a single category	Rs 30,000.00	Non Refundable
J	Renewal of Registration for multiple categories	Rs 40,000.00	Non Refundable
К	Registration fee for New Candidate for SI in case of Solar Thermal Systems	Rs 6,000.00	Non Refundable
L	Earnest Money Deposit (EMD) in case of Solar Thermal Systems	Rs 1,00,000.00	Refundable* (May be deposited in the form of DD/ RTGS/NEFT in the name of CREDA

The payment FOR Document Fee, Registration and Renewable Charges will be accepted in the form of crossed demand draft / banker's cheque/ RTGS/NEFT drawn on any scheduled bank in favor of CREDA Raipur.

#### **Bank Details:-**

Name of Organization Chhattisgarh State Renewable Energy Development Agence	
	VIP Road, Near Energy Education Park, Raipur – 492015
Account Holder name Chhattisgarh State Renewable Energy Development Agency (CRE	
Account Number 50100077809434	
IFS Code of the Bank HDFC 0003656	
Bank Name	HDFC Bank
Branch	Mowa, Raipur
Branch Address Usha Pride, Near Over Bridge, Ground Floor, Raipur	



- System Integrator who fails to achieve allotted target in last financial year shall have to get reregistered in CREDA.
- System Integrator who apply for re-registration does not require to submit the EMD again, if they have already submitted the same in last financial year.
- System Integrator who has achieved the allotted target in last financial year may apply for renewal of registration.

#### 3. Project objective

The objective of registration is to select trained and competent agencies to facilitate and extend marketing and service facilities of renewable energy based systems and projects in entire Chhattisgarh with a view to pass benefits of Government subsidy and to ensure a proper network and mechanism for monitoring, quality control, and consumer protection for these works.

#### 4. Scope of Work

- a) For system integrator (SI) The system integrator shall be the agency for integration and installation of Solar PV/Solar Thermal Systems. Their scope of work will be marketing, survey, preparation of DPR / formulation of proposal, designing, installation, commissioning of these systems and comprehensive operation and maintenance of these systems for five years as per guidelines of CREDA.
- b) For Vendors The vendors will be the registered suppliers for supply of Batteries, SPV Modules, Inverters, PCUs, VFD, Controlling and Monitoring Instruments, Electrical Material such as cables, conductors, earthing and LA, switches, luminaries and allied material etc, Poles and other fabrication items such as brackets, stay sets, Structures for SPVPP, SPV Pumps and Dual Pumps etc. They will supply the material of approved make and specifications to registered Sis for installation / integration of SPV Systems in the state. A vendor must be a manufacturer or its authorized dealer of manufacturer (of a product related to SPV confirming to specifications of MNRE/CREDA) with OEM Contract with the manufacturer.
- c) <u>For Contractors</u>- The contactors means civil and electrical contractors to be engaged for carrying out various small construction and repair civil works and works of laying of power distribution network at various sites as per requirement of CREDA.

#### 5. General Conditions-

- **A.** The registration shall be valid for one year from the date of registration and all the Terms & Conditions of the Market Mode scheme of CREDA for concerned financial year shall be applicable.
- **B.** Empanelled Channel Partner will have to achieve minimum target assigned during the period of registration to be considered for renewal as SI for next term.
- C. Empanelled Channel Partners shall have to associate themselves in creating awareness and educate end users / potential beneficiaries in order to promote use of renewable energy. System Integrators shall not use either CREDA logo or any other Central / State Govt. departments' logo on any of their pamphlets, advertisement, publication, websites, etc



- D. The Empanelled Channel Partners registered with CREDA are Associates ONLY. They are not directly or indirectly official / integral part of CREDA. Their registration with CREDA does not entitle them to be eligible for any Govt. work. The eligibility of SI for any Govt. work is adjudged by CREDA on case to case basis.
- **E.** Any Channel Partner found violating the norms may be debarred from the programme and suitable legal action shall be initiated against them
- **F.** The guidelines and application along with Joint Commissioning Certificates (JCC) format & other required formats shall be provided separately which are to be submitted in prescribed format for availing subsidies.
- G. CREDA reserves the right to modify/cancel/reject any registration without giving any reasons or prior notice.

#### 6. <u>Instructions to the System Integrators/Vendor/Contractors</u>

#### A. Guidelines for Registration/Renewal

- All system integrators/Vendors/Contractors either applicant for new registration or already registered shall have to submit E.M.D. of Rs. 2.00 Lakhs in the form of DD, to CREDA.
- The E.M.D. of registration will be withheld by CREDA for 5 years from the date of installation of last system, installed and reported by the system integrator itself.
- No E.M.D. in the form of FDR/Bank Guarantee will be accepted by CREDA. E.M.D. will accepted
  only in the form of D.D./TRGS/NEFT
- It is mandatory to acquire training from recognized institute in the field for solar technology, for a period of minimum 10 days, for new registration. The training certificate shall necessarily indicate the name of trainee along with the name of system integrator.
- All the system integrators/vendors/contractors seeking new registration and/or its renewal shall have to enter into an agreement on non – judicial stamp paper of Rs. 100/-.

#### B. Procedure for Submission of Application Document

The applicant should submit hard copies of the application document along with required Fee, EMD and enclosures in prescribed manner for registration in desired category in the office of Chief Engineer, Head Office, CREDA. Copy of application should be complete in all respect and should be bound as a volume separately. The document should be page numbered and appropriately flagged and contain the list of contents with page numbers.

The deficiency in documentation may result in the rejection of the application. The sealed cover should be super scribed with the wordings "Empanelment of System Integrators/ Vendor/Contractor with CREDA to work as channel partner for implementing Renewable Energy Projects under CREDA."

CREDA shall not be responsible for non-receipt / non-delivery of the application document due to any reason whatsoever, System Integrator/ Vendor/Contractor is advised to study the application document carefully. Submission of application shall be deemed to have been done after careful study and examination of the application document with full understanding of its implications.



#### C. Cost of Application Document

The applicant will bear all costs associated with the preparation and submission of its EOI, including cost of presentation for the purposes of clarification of the documents, if so desired. CREDA will not be responsible or liable in any case for those costs, regardless of the conduct or outcome of the selection process.

Application, document fee & processing fee must be in accordance with the categories for which it is being submitted.

#### D. Contents of the Application Documents

The applicant is expected to examine the enclosed guidelines, all instructions, forms, terms & conditions and statement of work in the application documents. Failure to furnish all information required or submission of an Application Document not in prescribed format will not be considered.

#### E. Confidentiality

CREDA requires that recipient of this document to maintain its contents in the dame confidence as their own confidential information and refrain from any public disclosure whatsoever.

#### F. Disclaimer

CREDA and / or its officers, employees disclaim all liability from any loss or damage, whether foreseeable or not, suffered by any person acting on or refraining from acting because of any information including statements, information, forecasts, estimates or projections contained in this document or conduct ancillary to it whether or not the loss or damage arises in connection with any omission, negligence, default, lack of care or misrepresentation.

#### G. <u>Authorized Signatory</u>

The "System Integrators/Vendors/ Contractors" as used in the application shall mean the one who is authorized to sign the application document forms. All certificates and documents (including any clarifications sought and any subsequent correspondences) received hereby, shall, as far as possible, be furnished and signed by the Authorized Representative.

The power or authorization or any other document consisting of adequate proof of the ability of the signatory to bind the System Integrator/ Vendor/Contractor shall be annexed to this document. CREDA may reject outright any proposal not supported by adequate proof of the signatory's authority.

#### H. Amendment of Application Document

CREDA, will have rights to amend application document as and when required.



#### I. Documents Comprising the Application

The application form shall comprise the following components:

Part A : Application & General Details

Part B : Prior Experience
Part C : Local office/Staff details
Part D : Commercial Information

#### J. Validity of Empanelment

The validity of empanelment of the System Integrator/ Vendor/Contractor will be for one year from the date of registration. However CREDA deserves the right to cancel the empanelment of any of the empanelled System Integrator/ Vendor/Contractor at any time during that time period if they are found to not confirming to any of the clauses mentioned in this application document or violating guidelines or if the deliverables is found to be not as per the specifications and guidelines or more than 2% of total installed systems are found non-functional for more than two months during their warranty period.

- **K.** Those system integrators/vendors/contractors, who have not deposited earnest money(EMD) at the time of original registration will also have to deposit Rs. 2.00 lacs, as EMD at the time of renewal of registration, in the form of DD/RTGS/NEFT in favour of CREDA Raipur.
- **L.** Every EMD against registration shall be detainable and shall be valid for 05 years from the date of installation of last functional system.
- **M.** Every system integrator/vendor/contractor shall have to excute an agreement as per prescribed format on non judicial stamp of Rs. 100/-

#### N. Details of minimum expected from System Integrators during validity of registration:-

S.No.	Category	Minimum Capacity of system installed during last financial Year	Minimum Capacity of Single System installed
1	"A" upto 10 KWp	10 KW	3 KW
2.	"B" upto 50 KWp	50 KWp	10 KWp
3.	"C" upto 100 KWp and Above	100 KWp	20 KWp

#### 7. <u>Selection Process</u>

#### A. <u>Pre- Qualification Criteria(for SPV Systems)</u>

The applicant interested for registration as System Integrator/ Vendor/Contractor must fulfill the following criteria:-

- Should be firm/company/Society registered/incorporated in India.
- The applicant should have objectives and required training (from a Government Approved Training Center) of Solar Photo Voltaic Systems as per the minimum curriculum attached so as to survey, load analysis, design, install, commission SPV Systems & to provide services including O&M.



- Should have a Positive Net Worth in last three financial years. Applicants incorporated after 2013-14 must have a positive net worth after their incorporation for the financial years including current FY till last month of their application.
- Should have local office cum sales & service center in the state of Chhattisgarh.
- For New Entrepreneur: Applicant should have certificate of training from any approved Govt.
   institute of MNRE like: NISE, CREDA, GERMI etc in the field of Renewable Energy particularly
   SPV. The curriculum of the training should be as given in annexure.

#### B. Pre- Qualification Criteria(for Solar Thermal Systems)

- The manufacturing companies enlisted as a channel partner of MNRE and whose products are also approved by MIS/ MNRE shall be eligible for registration under Market Mode Scheme-2020-2021 as a "System Integrator."
- The authorized dealer of MNRE channel partner companies shall also be eligible for registration under Market Mode Scheme for the year 2020-21 as a "System Integrator" submitting the copy of authorization.

#### C. <u>Desired Experience for New Registrations for Financial year 2020-21:</u>

S.no.	Category	Minimum Experience in the Name of Applicant	Minimum Capacity of Single system installed by Applicant
1.	"A" up to 10 KWp	NA	NA
2.	"B" up to 50 KWp	50 KWp	10 KWp
3.	"C" up to 100 KWp and Above	100 KWp	20 KWp

Experience certificate issued by a Govt. Department or Govt. Undertaking shall only be considered.

#### D. Preliminary Scrutiny

Preliminary scrutiny of the application document will be done by CREDA, in a manner to ensure that, whether the documents fee is being deposited, the form is properly filed and signed, whether the application and required enclosures are placed in proper order. The proposals which are not found conforming to such preliminary requirements will be prima-facie rejected.

#### E. <u>Evaluation of Proposals</u>

The proposals would be evaluated on the basis of the pre-qualification criteria and System Integrator/ Vendor/Contractor prior experience in the areas mentioned above. The specific experience of the consultant would be evaluated on the basis of the following information:-

For System Integrators, evidence of having sufficient knowledge/ training in SPV field to provide services to clients including survey, load analysis, design, install, commission SPV Systems & to provide services including O&M. Experience certificate issued by Govt Agency or Undertakings only shall be considered.

A vendor must be a manufacturer or its authorized dealer of manufacturer (of a product related to SPV confirming to specifications of MNRE/CREDA) with OEM Contract. They will have to submit the test report of the product by the authorized test laboratory of MNRE



#### F. Inspection/Verification of Office and Service Center

For new registrations CREDA through its authorized officer shall inspect the office and service center and other facilities of the applicant to ensure that the applicant has proper infrastructure and manpower to carryout works against the category the applicant want to get registered. After submission of the report on the merits and recommendations of the inspecting officer the decision for registration will be made accordingly.

For renewal of registration re verification will be required only in case of change of office / service center.

#### 8. Application forms

Application is to be submitted in the following format along with the necessary documents as listed. The application shall be liable for rejection in the absence of requisite supporting documents. Application should provide information against each of the applicable requirements. In absence of the same, the application shall be liable for rejection.

The specifications laid by MNRE/CREDA their individual program administrative approvals and specified will be strictly applicable while implementing this scheme.



# Application Format for SPV Systems

To,

Chief Executive Officer,
Chhattisgarh State Renewable Energy
Development Agency (CREDA)
Near Energy Education Park, Village Fundhar
VIP (Air Port Road) Raipur - 492015 (C.G.)

**Sub:-** Application for Empanelment/ Renewal of Empanelment as System Integrator/Vendor/Contractor in SPV Programme with CREDA to work as channel partner under Market Mode Scheme. (in case of Vendor or Contractor pl specify for which Product or category the applicant wants to get registration)

Sir,

I ( Name and Designation) on behalf of (Name of Firm/ Company/Society) wish to apply for registration of M/s (Name of Firm / Company/ Society) as System Integrator/Vendor/Contractor with CREDA to work as channel partner under Market Mode Scheme 2020-21. The required details in this regard are as follows-

#### A. General Details-

	Octional Details	
1	Name of the Applicant	
'	( Firm/ Company/ Society etc	
2	Firm/ Company/ Society Registration no. and Act under which it is registered	Reg no. Date of Registration Validity till Act under which it is registered
3	Registered Address with details of Telephone / Fax/Website/Email	
4	Address for Correspondence with details of Telephone /Fax/ Website/ Email	
5	PAN no.	
6	VAT /CST/TIN no.	
7	Service Tax no.	
8	Name of the Proprietor/Partner/ Director/ Secretary/Authorized Representative with details of Telephone & Mobile Phone /Fax/ Email Responsible for coordination with CREDA	
9	Reference of Authorization Letter for above	
10	Name, Designation and Address of the contact person with details of Telephone & Mobile Phone /Fax/ Email to whom all references shall be made regarding this application	
11	Details of Previous Empanelment with CREDA	Reg No. Date of Registration Validity till



	year (pl specify)  pplicant a Channel Partner of MNRE or any
	policant a Channel Partner of MNRF or any
13 Is the Ap	phicant a channel i atticl of white of any
SNA of N	INRE (if yes then pl specify)
14 Details o	f Training attended in SPV from a recognized
organiza	tion (applicable for new applicants)
Wants	to apply for empanelment as System
15 Integrato	r/ Vendor/ Contractor (in case of Vendor or
Contract	or pl specify for which Product or category the
applicant	wants to get registration)
16 1	r's Achievement of Installed Systems in KWp
against S	Sanctions / WOs of CREDA
17	hievement in terms of Installed Capacity in
KWp of S	SPV Systems in Last Year
19	ve Achievement in terms of Installed
Capacity	in KWp of SPV Systems
19 Net Wort	h of Applicant ( in Lacs)
20 Local O	ffice cum Service Center is available in
Chhattis	garh State
Number Number	of Employees as on date (Pls. attach
details)	
22 Details o	f Relative working in CREDA ( if yes then pl
give deta	ils)

# B. : Prior Experience

Name of Department / SNA/ Other Govt or Non Govt	
Agency for which works are done by Applicant	
Description of Project / Type of SPV Systems and	
quantity	
Cumulative capacity in KWp of the systems installed&	
commissioned successfully	
Approx. value of the contract (in Rupees)	
Location	

**Note: -** Please attach certified copy of work order or certificate of successful completion for each project, from the respective client(S)



# Application Format for Solar Thermal Systems

To, Chief Executive Officer, Chhattisgarh State Renewable Energy Development Agency (CREDA) Near Energy Education Park, Village Fundhar, VIP (Air Port Road) Raipur 492015 (C.G.) Sub: Empanelment of System Integrator with CREDA to work for Solar Thermal Application under Market Mode Scheme – 2020-21 under J.N.N.S.M guidelines of MNRE. Sir, The undersigned hereby apply for registration as System Integrator under Market Mode Scheme 2019-20 & Jawaharlal Nehru National Solar Mission(JNNSM) guidelines issued by Ministry of New & Renewable Energy(MNRE). I do hereby express my interest to provide services for implementing the various Solar Thermal Applications as per Market Mode Scheme & J.N.N.S.M guidelines. Our correspondence details are:- Name of System Applicant 2. Address :- ..... 3. Name of Contact Person to whom all references shall be made regarding this application 4. Contacts of applicant :-.... a) Telephone No. <u>:-....</u> b) E-mail I.D. :-.... c) Fax No. :-.... 5. Service centre in Chhattisgarh state <u>'-</u>..... (Enclose photographs) a) Name <u>-</u>...... b) Place :-.... c) Phone No. :-.... d) E-mail I.D. <u>-</u>...... 6. Authorized dealership of product :-.... a) Name of Product :-.... b) Manufacturer of Product <u>'-</u>..... c) Make of Product <u>-</u>..... 7. Whether manufacturer is registered with <u>.</u> MNRE / BIS 8. If yes Validity of registration <u>'-</u>.....

Years – .....

(Pls. enclose copy)

Chhattisgarh.

9. System Integrator working experience in





<ol> <li>Application is filed for new of the control of the co</li></ol>		:		
<ol> <li>Registration fees         Mode of Payment</li></ol>	: :	: : :- Rs		
<ol> <li>Product wise achievement i Years (In Chhattisgarh State</li> </ol>		:		
Name of Product	2017-18	2018-19	2019-20	Total
S.W.S.H.S. (LPD / Year)				
Solar Concentrating System				
Others				
13. Working area in Chhattisgar	rh State		District – District –	
14. Product wise selling price of (valid for year 2013-14) atta List	: Cost of System - Rs I/C Charges - Rs GST Others Taxs(if any) - Rs			
<ul><li>15. Is there any mechanism dev Maintenance of installed sys</li><li>16. Functionality of installed sys Years.</li></ul>	stems (Please	(in : specify)	Total selling price clusive of all taxes	s & GST)
Name of Product	2017-18	2018-19	2019-20	Total
S.W.S.H.S. (LPD / Year)				
Solar Concentrating System				
Others				
17. PAN No. of Applicant		:		
State & Central Sale Tax registration     Number of Applicant		i <del>-</del>		
19. Service Tax Registration No	: -	1		
20. Test Report of Product	:	: Submitted / Enclosed		
21. Other information if any		:		
		·	gnature & Seal of ame:	• •



C.	Loc	cal Office & Available Infrastruc	<u>:ture</u>				
	1.	Local Office Address	:				
	2.	Local Office Contact Person :					
	3.	Mobile Number :					
	4.	Details of Local Technical/Non-Te	chnical Staff : Technical Non Technical				
	5.	Services facility available in Chhat	tisgarh				
	6.						
	7.	Details of Training attended in a organization approved by MNRE/CREDA (for new applicants of					
		registration for System Integrator only)					
		Name of Training Organization					
		5 5	nys. wef				
	8.	_	ontractor/work license: ((for new applicants of registration for				
		Electrical Contractor only)					
	•	Licenses No. :					
	•	Validity:					
	(For	3	either it is applicant's own license or any associated person's				
	(. 0.	License)	with approxime commissions of any assessance percent				
D.	Con	nmercial Information					
υ.			Separate sheets should be used, Wherever necessary)				
01.		ument fee Details	Separate sheets should be used, wherever necessary,				
01.	,	nount of fee	:Rs				
	iii) Details		:DD/BC/RTGS/NEFTno				
	III) D	octans	Bank				
			Branch				
	02 i	) Processing fee Details	: Bank draft/Bankers cheque				
	02.1	y i rocessing ree Details	RTGS/NEFT Payable/Pledged				
			to, CREDA, Raipur				
	ii\Λm	nount of fee	:Rs				
	•	Details	:DD/BC/RTGS/NEFTno				
	111)	Details					
			Bank				
	02.	. i) EMD Details	Branch				
	UZ.	. I) EIVID Details	:Bank draft/Bankers cheque				
			RTGS/NEFT Payable/Pledged				
		!\\ A	to, CREDA, Raipur				
		ii) Amount of fee &	:Rs				
		iii) Details	:DD/BC/RTGS/NEFTno				
		5 .					
	_	Bank					
		anch					
	04.	Indicate VAT/CST Registration:					
	05	PAN Number of the Applicant					
	DI A	CE :					
	DAT		SIGNATURE OF Applicant				
	DATI	L	NAME IN FULL				
			DESIGNATION/STATUS				
			EIDN//COMDANIV CEAI				



## E. <u>List of Attachments & Check List</u>

S. No.	Document	Attached / Not Attached	Page No.
1	Proof of Registration of Firm/ Company/ Society etc		
2	Proof regarding Validity of Registration as above		
3	Copy of Article of Association and By Laws		
4	Copy of PAN Card		
5	Copy of VAT/ CST/TIN Registration		
6	Copy of Service Tax Registration		
7	Authority Letter of signing the Application		
8	Identity Proof of Authorized Contact Person		
9	Local Office Address Proof		
10	Copy of Degree/ Provisional Certificate ( in case of		
10	Graduate Engineer applying for Empanelment		
11	Copy of Audited Balance Sheet of Last three Years		
12	Proof of Achievement in terms of Installed Capacity		
12	of SPV Systems as desired		
13	Copy of Previous Empanelment Certificate of CREDA		
1.4	Certificate of Training Attended in SPV (for New		
14	Applicants)		
15	Copy of Valid License of A-class Electrical Contractor		
16	MNRE CHANNAEL PARTNER		

We hereby declare that our application is made in good faith and the information contained is true and correct to the best of our knowledge and belief.

correct to the best of our knowledge and belief.	
Thanking You	
Yours Faithfully (Signature /Seal of the representative of Applicant)	
Name :- Designation :- Seal :-	
Date :- Place :- Business Add.:-	
Witness :-	Applicant
Signature	Signature
Name	Name
Address  Company  Date	Designation



# Office verification report of CREDA:

Reference-	Application of	of M/s	Vide no
Date	for regist	ration for System Integrator/Vend	dor/Contractor in CREDA
Inspection F	Report no	Date o	of Inspection
S.No	Particulars	Observations/ Findings	Remarks
1	Office		
2	Godown		
3	Service Center		
4	Staff		
In refe	erence to the inspection	on/verification of premises and facil	ities of Applicant M/s
		/20	020 by the undersigned, it is found that
•		•	gistration as ain
CREDA	lt	is therefore recommended that t	hey may be /should not be registered
as			
			Signature of Inspecting Officer
			Name
			Designation



# **Topics to be covered in 10 Days Training Programme**

Overview of Selectiveters
Overview of Solar System
Solar Cell Technology
Lab Activity
Solar Geometry
Energy Efficiency
Building Codes
Load Assessment
Site Assessment
Lab Activity
Site Assessment
Basics of Solar Module & Technology
Basics of Inverter/ PCUs
Basics of Current Storage System and Basics of Charge Controller
Basics of Wiring and Cabling
Basics of Combiner Boxes
Basics of Lightening Arrestors and Basics of Earthing
Basic System Selection and Sizing
Lab Activity
Cost Benefit Analysis
Load Assessment, Load Estimation, Site Evaluation and on that basis System Designing
Read a design
Plan the Sequence of Actions
Handle Components
Grooming Session
Prepare, Pre-assemble, Construct
Install
DC Side Wiring Sequence
AC Side Wiring Sequence
Monitoring
Testing and Commissioning
Lab Activity
Final Documentation
Grooming Session
Preventive Maintenance
Customer Engagement
Problem Diagnosis
Lab Activity
Technical Troubleshooting
Reporting
Visit of a SPV Module Manufacturing Unit
Installation of 5 kWp Solar Power Plant
Recommendation by the experts for improvement,
Project Submission including cost benefit analysis,
Presentations by the participant on the project,



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1/fl LV	/e ba/hxa/j@osMj@dkWVDVj "kCn kf/kdkjh "kkfey gs2, dh vkgi IsJh	ftuem buds mRrjkf/k	dkjh@gLrk{kjdrk@dkuwh
iatho rgr~ g% d	%igyk i{k½,oaNRrhlx<+j dir dk;k¾y;] 0gh-vkbZih-jkM}-ÅtkZf″k{l iathdir g\$n %blsØMk dgk x;k g\$ftl dh vkgi IsJh k i{k½dse/; fuEufyf[kr fu;e,oa"kr	jkT; ∨{k; ÅtkZ fodkl kk m ku dsikl]jk;i <b>j</b> e∎bldsmRrjkf/kdkjh@o fuoklh	∨fHkdj.k 1⁄ØMk½ ftudk tks∣kd kbVh ∨f/kfu;e ds dkunuh mRrjkf/kdkjh ″kkfey 
1-	; g fd ~fl LVe b\/hx\/j@osMj@dk uohuhdj.k djusgrqbPNpd g\\squb\\rh "krk\dsvuqkj dk; ldju\@vki\nrld mi; kx dj ldrkg\\square	x<+jkT; ea dgha Hkh ek	d <b>i</b> V ekM fn″kk&fun <b>i</b> ′kks , oa
2-	; g fd ~fl LVe b\n/hx\n/j@osMj@dk\n/\n ealjdkj dslHkh ipfyr ekin.Mkadk	_	
3-	; g fd] ~fl LVe ba/hxa/j@osMj@dkl %tssxke iapk; r] uxj fuxe] uxj i 'kkl dh; jkf'k lsdk; ldjusgrqik= k Hkkx ysus, oa vglik; stkusij vuqak dk volj ØMk }kjk fn; k tk; skk], oa	kfydk] uxj ipk;r] ou <b>ugh gkach</b> A iathdir bdkb	ica⁄ku I fefr bR; kfn½ ea 17, ka dks ØMk dh fufonk ea
4-	; g fd ~fl LVe b\/hx\/j@osMj@d\\\ dksfn~kk&fun\/kkadsvu( kj ,oale;& ,oa"krk\dsvu( kj fØ;kflordjusdsf	le; ij ekd&/ ek&/ ;kst	

; g fd bl ckr ij Hkh I gefr cuh g) fd bl vuçak eami; kx dh xb2'krkivFkok okD; ka dh 0; k[; k eavLi'Vrk gksusij ~e([; dk; 1 kyu vf/kdkjh\*\* ØkMk dk fu.ki; vaire nksuksi{kka

ij ck/; dkjh gkskl], oa



## &@@ 2 @@&

- 6- ; g fd bl ij lgefr g\$ fd lHkh fn″kk&fun&k vk\$ ekd&v ek&v ; kstuk oʻk22020&21 ds fu; e , oa "kr& bl le>k&rs dk fgLlk gkaxh] rFkk Ø&vk ds "kkldh; ek&v ds dk; 2 grq Hkh vkoʻ; drkuq kj ykxwgkxh], oa
- 7- ; g fd ; g Hkh I gefr 0; Dr dh xb $\mathbb{Z}$  g $\mathbb{F}$  fd fd $\mathbb{F}$  hkh fookn ds fy; s  $\mathbb{U}$ ; k;  $\mathbb{F}$  {ks= jk; i g dk  $\mathbb{U}$ ; k; ky; gkskA

nks xokgka ds I e{k gLrk{kj

I hy , oagLrk{kj^

MTI LVe by/hxy/j@osMj@dkW/BVj**		ØMk dh ∨kjj Is	
gLrk{kj uke i nuke		gLrk{kj uke i nuke	e <b>(</b> ; <b>v</b> flk; <b>r</b> k
xolg %&		xolg %	
<b>xokg %</b> gLrk{kj uke irk		xokg % gLrk{kj uke irk	