**FORMAT FOR STUDENT PROJECT PROPOSAL FOR THE 42\textsuperscript{nd} SERIES OF STUDENT PROJECT PROGRAMME**

**STREAM C : PROJECT PROPOSAL FOR STUDENT PROJECT PROGRAMME**

(Hand written proposals will not be accepted, please fill all the details in this MS word file as per the following format. Kindly take a photocopy of completely filled project proposal and Demand Draft for filling up the Google Forms.)

[https://goo.gl/forms/UsilS6ODB0BZL2QC3](https://goo.gl/forms/UsilS6ODB0BZL2QC3)

For details please Contact email: spp@kscst.iisc.ernet.in and visit [http://www.kscst.iisc.ernet.in/spp.html](http://www.kscst.iisc.ernet.in/spp.html)

Telephone : 080 23600978, 080 23341652 Extn.25

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1.</td>
<td><strong>Name of the College</strong> : Hirasugar Institute of Technology, Nidasoshi</td>
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<tr>
<td>2.</td>
<td><strong>Project Title</strong>: Fabrication of Low Cost High Efficient Composite Using Garment Wastes for Indoor and Outdoor Applications.</td>
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<tr>
<td>3.</td>
<td><strong>Branch</strong>: Mechanical Engineering</td>
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<tr>
<td>4.</td>
<td><strong>Broad Theme / Category (as per KSCST poster)</strong> : Waste Management</td>
</tr>
</tbody>
</table>
| 5. | **Name of project guide** :  
   1. Name : Prof. S. R. Kulkarni  
   Email id : srkulkarni.mech@hsit.ac.in  
   Contact No. : 9591650740 |
| 6. | **Name of Team Members (Strictly not more than four students in a batch):**  
   (Please paste the latest passport size photograph adjacent to your respective names)  
   1. Name : Mallikarjun. B. Ammanagi  
      USN No. : 2HN15ME042  
      Email id : shivaba746@gmail.com  
      Mobile No. : 8904850706  
   2. Name : Mahantesh. Angadi  
      USN No. : 2HN15ME037  
      Email id : mahanteshangadi467@gmail.com  
      Mobile No. : 9916729174 |
3. **Name**: Karthik. B. Chikkabagewadi  
   **USN No.**: 2HN15ME027  
   **Email id**: kartikbc210@gmail.com  
   **Mobile No.**: 7026035984

4. **Name**: Kiran. Mangalwede  
   **USN No.**: 2HN15ME030  
   **Email id**: kmangalwede@gmail.com  
   **Mobile No.**: 9663299146

7. **Team Leader of the Project**:  
   **Name**: Mallikarjun. B. Ammanagi  
   **USN No.**: 2HN15ME042  
   **Email id**: shivaba746@gmail.com  
   **Mobile No.**: 8904850706

8. **Processing Fee Details**: (Demand Draft should be drawn from Canara Bank / State Bank of India only):  
   (processing fee of Rs. 1000/- drawn in favour of Secretary, KSCST, Bangalore – 12)  
   **Demand Draft No.**: 228142  
   **Date**: 02-01-2019  
   **Bank name**: State Bank of India

9. **Date of commencement of the Project**: 02 November 2018

10. **Probable date of completion of the project**: 25 April 2019

11. **Scope / Objectives of the project**:  
   1. To fabricate composites for suitable applications to obtain favorable mechanical properties.  
   2. To compare the prepared composite material properties with conventional materials.  
   3. To make ready testing specimens as per ASTM standards from prepared composite material.  
   4. To study the mechanical properties like tensile, compression, flexural & impact Strengths for the modified and normal composites.  
   5. To study the water absorption properties for the modified and normal composite materials.

12. **Methodology**:  
   1. Collection of the garment waste and fly ash from the industries along with the required resin and hardener.  
   2. Preparing the mould box for the required dimension.  
   3. Mixing of different ratios of Garment waste, Epoxy, Fly ash (Ex:
50:40:10) with Hardener (10% of resin used).

4. Pouring the garment waste, Epoxy resin, Fly ash along with the hardener into mould box.

5. Leaving for curing (for 24 hrs), so that all the moisture content from the specimen gets removed.

6. Specimens are cut as per ASTM standards for testing purpose.

7. Testing the specimen’s strength under different load conditions with respect to tensile, compressive, impact, water absorption and bending strength.

8. Based on different tests the result of specimen will be recorded and analyzed.

<table>
<thead>
<tr>
<th>13. Expected Outcome of the project</th>
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<tbody>
<tr>
<td>1. Getting the mechanical properties like tensile, compression, flexural &amp; impact strengths for the modified and normal composites.</td>
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<tr>
<td>2. The water absorption properties for the modified and normal composite materials are being studied.</td>
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<tr>
<td>3. Comparing the prepared composite material properties with conventional materials for using them in different application such as Roof tiles, park benches etc.</td>
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<table>
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<tr>
<th>14. Application of the project</th>
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<tr>
<td>1. Industry</td>
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<tr>
<td>1. To produce tiles for roofs.</td>
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<td>2. Park benches and chairs.</td>
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<td>3. Doors at minimal cost.</td>
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<td>4. Windows grills, and door shutters</td>
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<tr>
<td>5. Body structures for toys.</td>
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<tr>
<td>6. Fancy Compound wall.</td>
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<td>7. Partition walls and tent, etc.</td>
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<table>
<thead>
<tr>
<th>15. Is the project proposed relevant to the Industry or Institution?</th>
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<tbody>
<tr>
<td>No</td>
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</table>

| 16. In case of fabrication work in the project, an engineering drawing with dimensions / detailed design calculations (approximately) of the machine / device should be attached to the proposal. |

![Fig.1. Hand layup process](image)
Below sketches show the specimen to be prepared for conducting various tests.

Fig.2. Bending Test

Fig.3. Compression Test

Fig.3. Impact Test

Fig.4. Tensile Test

Fig.3. Water Absorption Test

Note: All dimensions are in mm
17. Can the product or process developed in the project be taken up for filing a Patent?
   No.

18. Budget details (break-up details should be given):

<table>
<thead>
<tr>
<th>Budget</th>
<th>Amount</th>
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<tbody>
<tr>
<td>a) Materials / Consumables</td>
<td>1500.00</td>
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<tr>
<td>b) Labor</td>
<td>1500.00</td>
</tr>
<tr>
<td>c) Travel</td>
<td>1000.00</td>
</tr>
<tr>
<td>d) Report</td>
<td>1500.00</td>
</tr>
<tr>
<td>e) Miscellaneous (Testing)</td>
<td>2000.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7500.00</strong></td>
</tr>
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</table>

19. SPP Coordinator (Identified by the college):

   **Name**: Prof. M. S. Futane  
   **Email Id**: mohanfutane.mech@hsit.ac.in  
   **Contact No.**: 9480849334 / 9164105035 / 7829611609

(Name & Signature of Project Guide with Seal)   (Name & Signature of HOD with Seal)

>Email id: srkulakarni.mech@hsit.ac.in Email id: hod.mech@hsit.ac.in

>**Contact No.**: 9591650740  
>**Contact No.**:  

DECLARATION
(From Project Students)

We, the project team hereby declare that the details enclosed in the project proposal are true and correct to the best of our knowledge and belief and we undertake to inform KSCST of any changes therein in the project title, students name will be intimated immediately. In case any of the above information is found to be false or untrue or misleading, we are aware that we may be held liable for it. We hereby authorize sharing of the project information with this project proposal with the Karnataka State Council for Science and Technology, Bangalore.

We are aware that the project team has to exhibit / demonstrate the project in the nodal centre and interact regarding project with the experts and to exhibit the project in the State Level Seminar and Exhibition (if selected). If the student team fails to attend the evaluation in nodal centre or fails to attend the State Level Seminar and Exhibition, the supported project amount will be returned back to KSCST.

We also hereby, enclose the endorsement form to KSCST, Bengaluru.

<table>
<thead>
<tr>
<th>Name of the students</th>
<th>Signature with date</th>
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<tbody>
<tr>
<td>1. Mallikarjun. B. Ammanagi</td>
<td></td>
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<tr>
<td>2. Mahantesh. Angadi</td>
<td></td>
</tr>
<tr>
<td>3. Karthik. B. Chikkabagewadi</td>
<td></td>
</tr>
<tr>
<td>4. Kiran. Mangalwede</td>
<td></td>
</tr>
</tbody>
</table>
ENDORSEMENT

(From College, endorsement to be taken in the institution / Department Letter head)

This is to certify that 1) Mr. Mallikarjun. B. Ammanagi 2) Mr. Mahantesh. Angadi
3) Mr. Karthik. B. Chikkabagewadi 4) Mr. Kiran. Mangalwede are bonafide students of
Department of Mechanical Engineering, in the degree program of our institution. If the
project proposal submitted by these students under the 42\textsuperscript{nd} Series of Student Project
Programme is selected by KSCST, we will provide the requisite laboratory / Computer /
infrasctructure support in our college / Institution. Further we also take necessary steps to
see that the project team will exhibit / demonstrate their project in the nodal centre and in
the State Level Seminar and Exhibition (if selected). If the student team fails to send the
completed project report or fails to attend the evaluation in nodal centre or fails to attend
the State Level Seminar and Exhibition, the supported project amount will be returned
back to KSCST.

(Name & Signature of
Project Guide with Seal) (Signature of HOD with
Seal) (Signature of the Principal
with Seal)

Email Id: srkulknri.mech@hsit.ac.in Email id: hod.mech@hsit.ac.in Email id: principal@hsit.ac.in
Contact No.: 9591650740 Contact No.: 9741483339 Contact No.: 9535666217