

# Gandhian Studies

## Guidelines for Practicals

Based on the directions from the new curriculum revision committee, from this year onwards, a new systematic approach has been adopted for practical in Gandhian Studies. According to this scheme, there are two options and teachers have the right to choose any one:

**Option 1 - Any 7 crafts from the listed 6 categories + Field visit**

or

**Option 2 - Any 10 crafts from the listed 6 categories**

The crafts can be selected only from the listed items. No other crafts are allowed. From the given 6 categories one item from each category is compulsory. The additional crafts can be selected from any given category. If field visit is not included, additional 3 crafts are compulsory.

The 6 categories are

### **Category 1**

- Screen printing
- Textile printing
- Vegetable printing
- Glass painting
- Fabric painting

### **Category 2**

- Food processing (on the spot cooking)
- Bio-pesticide
- Mushroom cultivation
- Fresh flower arrangement
- Flower bouquet

### **Category 3**

- Products using natural fibers ( bag, mat etc.)
- Coir products
- Bamboo products
- Badminton /volley ball net making
- Coconut shell products

### **Category 4**

- Metal engraving/wood carving
- Pot designing
- Embroidery
- Plaster of Paris products

- Products using waste materials

### **Category 5**

- Agarbathy making
- Soap making (toilet or washing)
- Chalk making
- Candle making
- Umbrella making

### **Category 6**

- Book binding (calico binding/stitch binding)
- Folding file+ Office file+ Plain cover/ office file + writing board
- Paper bag (two types)
- Beads work or Ornaments (set of ornaments)
- Interior decoration items (wall hangers, bunch of flowers, flower vases etc.)

All the works should be recorded systematically in the record book. Submit the duly signed record book for external evaluation.

## **Format of record book**

Page 1 - Certificate

Page 2 - Index

Page 3 – Recording of craft (one by one)

### **Craft 1**

Date

Name of the craft with category number

Aims and objectives

Materials required

Procedure

Time required

Cost of production

Skills achieved

Utility of the product

Marketing strategy

Signature of teacher

### **Craft 2**

.....

### **Craft 3**

.....

**Craft 4**

.....

**Craft 5**

.....

**Craft 6**

.....

**Craft 7**

.....

Field visit report or Craft 8, 9 & 10 –

**Field visit report format**

Certificate from the Institution visited with date

Report - Name of the Institution

Introduction

History & background of the institution

Aims & objectives of the institution

Area of operation and funding

Administrative structure

Activities of the institution

Analysis of activities in the light of Gandhian ideas

Observation and conclusion

**Procedure of certain craft items****1. Screen printing**

Screen printing is the method of printing designs on plastic, cloth, pen, paper, metal, ceramic and glass.

**Materials required:** - Frame with a screen, exposing frame, squeegee, exposing box, table, vessels, enamel tray, palette knife, stove, old newspaper, bleaching powder, waste, soap, paint (various colours) and DTP.

**Method:** Fix mesh on the frame. Mesh is widely available in numbers from 8 to 16. Accurate screen will only be available on the cloth with equivalent strand. Then take DTP of the required matter on butter paper. The printer and the 5 star film should be laid together. Then put the exposing frame on it. Print should bring on the film by exposing it on the sunlight. Wash the film in the liquid consisting of hydrogen peroxide and hot water with a ratio of 1:3. Again wash it in fresh water and affix it on the frame. Put the frame on the intended surface meant for printing. Pull it with the squeegee filled with ink.

## 2. Vegetable printing

**Materials required:** Fabric paints, brush (No-3), vegetables (potato, onions, ladies finger, carrot etc), cloth (minimum 1/2 meter)

**Method:** - Cut the vegetables in suitable shapes. Apply paint upon the sliced vegetables by using brush. Apply it on the cloth in desirable pattern. Allow it for drying.

## 3. Glass painting

**Materials required:** Glass piece, Glass paints, White glue (fevicol tube), buds, designs

**Method :-** Design of the picture meant for adorning the glass should be laid down below the glass. Then draw the outline by using white glue. After drying apply the black colour on it. Colour the inner part using desirable colours. Let it for drying. After this we can frame it.

## 4. Fabric painting

**Materials required:** fabric paint, medium cloth (50 cm), brush 0 to 6, frame, paint tray, glass, water, waste cloth, oil paper, carbon paper (yellow) and designs.

**Method:-** Draw the design on the cloth by using carbon paper. Put the cloth on the frame. Apply the suitable fabric paints by using brush on the framed cloth. If you paint the outlines only, then use brush no 6. Let it dry.

## 5. Coconut shell products

**Materials required:** Coconut shell, fevicol, axo blade, varnish, sandpaper.

**Methods:** We can make various items like cups, flower vase, spatula etc. by using coconut shell.

Clean the shell neatly and polish it with a sand paper. Cut the shell using axo blade into required shapes. Use fevicol for fixing various pieces into the required shapes. Put varnish on it and allow for drying.

## 6. Pot designing

**Materials required:** Clay pot, enamel paint-black, sand paper, varnish, clay, white glue, fabric paints, brush, emulsion paints etc.

**Method:** Polish the pot by using sand paper. Apply the emulsion paint on it. Again polish it with sand paper and apply the enamel paint. (It can be done without applying the paint). Make different shapes (flowers, stem and leafs, fruits, etc) by using clay. Fix it on the pot by using glue. Let it dry. Apply desirable colours on the shapes. Allow to dry. Apply varnish on it.

## 7. Plaster of Paris Product

**Materials required:** Plaster of paris, fevicol, mould etc.

**Method:** Mix plaster of paris and fevicol in the appropriate way. Put it over the mould. Allow to dry. Remove it from the mould. Apply suitable colours for better finishing.

## 8. Agarbathi making

**Materials required:** Charcoal dust-8kg, Wood carving powder- 38kg, kulamav powder – 8kg, perfume, agarbathi stick, sieve, water.

**Method:** Filter the powders using a sieve. Mix the powders well. Pour some water and perfume into the mixture and knead it like chappathi mavu. Fix the mix over the stick. Allow to dry.

## 9. Chalk making

**Materials required:** plaster of paris, water, lubricant oil, mould.

**Method:** Mix plaster of Paris with water. After applying oil on the mould, pour the prepared mixture into the mould. After setting, remove it from the mould and dry it in sunlight.

## 10. Candle making

**Materials required:** Wax, stove, vessel, cup, thread, mould, knife, oil, water and a large vessel.

**Method:** Light the stove and put an aluminum vessel on it. Put wax into the vessel and allow it to melt. Open the mould and apply oil on it. Then put the thread on it. Close the mould. Pour the melted wax on it. Dip the mould into the water in a large vessel. Allow to cool completely. Take the mould from the water and remove the candles with the help of a knife.

## 11. Umbrella making

**Materials required:** Parts of an umbrella- umbrella stick, umbrella cloth, metal bars, cap, washer, handle, thread and needle, metal thread (winding wire).

**Method:** Assemble the metal bar and stick together. Stitch the umbrella cloth on it. Fix the washer and cap on the top. Put the handle. Stitch the strap to hold together the umbrella cloth.

## 12. Book binding 200 pages

**Materials required:** paper , calico, card board (bind), fancy paper, binding paste or gum , thread, needle, knife, scale

**Method:** Cut the paper according to the double size of the type of book preferred. Divide them into 4 equal parts. Fold each part and press strongly. Set the folded

paper in such a way that the folded sides come together. Mark two points equidistant from both edges. Put another mark on the middle. Make a small hole on each marking. Using thread and needle to stitch the bundle together strongly. Cut the bind into the required size. Fix this over the stitched book with the help of calico and paper. Graft fancy paper over the bind. Put some gum over the inner side and fix the first page on the bind.

### 13. Folding file / Office file

**Materials required:** chart paper, brown paper, string, eyelet, punch, tag, scale, etc.

**Method:** - folding file - Fold the chart paper in the order 1" 2" and affix it. The inner part should be folded as the ½ manner. Then fix the 2 eyelets on the middle part with 4 or 5 inch distance and put a tag on it.

#### Office file

**Materials required:** card board, calico, gum, brown paper, white cotton ribbon, knife.

**Method:** The cardboard should be cut with proper length and width in the shape of a rectangle. Cut the calico into the required size and graft it on the side of the board. Fix the ribbon at the middle edges. Graft the middle part with brown paper and mark as the covered part comes on the front. Then make a folding with brown paper and calico and tie the ribbon on it.

### 14. Plain cover

**Materials required:** brown paper, gum, scale, pencil, paper cutter.

**Method:** Take a brown paper of 12" length and 9" width and blend it together. Then fold it. Do not make any folders in the frontal area. Then fold as marking ½ on the lower part. Cut away the piece inside and graft it. Again fold the upper part by marking it as 1". Cut away the portion inside and shape the side.

### 15. Writing board

**Materials required:** solid card board, calico, colour paper, gum, knife, scale, etc.

**Method:-** Cut the cardboard with 1meter length and 1 meter width.( you can increase or decrease the size of board according to your choice). The side should be affixed with calico and colour paper should be affixed on the upper and lower areas.

### 16. Paper bag

**Materials required:** paper, gum, knife, scale, tag, eyelet and punch, iron hammer etc.

**Method:-** Measurements – 24" x 18" and 10" x 8".

Take a paper with the measurement of 24" length and 18" width and affix the lengthy portions each other. Fold as the affixed side comes in the front. Fold 1" mark from both sides. Then fold as the folded inside part should come in the outer

part and the outer comes in the inside. Mark the portion as 2" and fold it. Affix the angle folded. Again mark the upper portion as 1" and fold it. Put the tag by fixing eyelet.

### **17. Beads works / ornament making**

**Materials required:** beads, needle, knife, thread, cutter, player etc.

**Method:-** You can make bangles, ear rings and necklaces according to your imagination.

### **18. Fresh flower arrangement**

**Material required:** different type of flowers, stems and leaves, flower arranging bases, scissors, thread, cello tape etc.

**Method:-** We can make bouquets with fresh flowers according to our imagination. Flowers can be arranged on vehicles, auditoriums, halls, and stages according to the needs.

### **19. Embroidery**

**Materials required:-** cloth, thread, scissors, ribbon, needle, frame etc.

**Method:-** This is the method of stitching beautiful designs by hand. You can take any cloth of your choice. But be cautious while stitching the thread, it should match with cloth meant for stitching. It is better to use a thread which may not make any damage in the colour. After drawing the design put the cloth on a frame and you can do your embroidery work on it.

There are various types of stitches in the hand embroidery. 1. Running stitch – it is mainly used for stitching the outline of the leaves and flowers and also the stem of the plants. 2. Back stitch – same as the above. 3. Stem stitch – it is meant for stitching the stem of a plant. 4. Bullion stitch – meant for stitching rose flower. 5. Chain stitch – can be used in any type of design. 6. Satin stitch – meant for stitching the petals and leaves of the flowers.

### **20. Food products – Jam making**

**Material required:** pineapple, induction stove, citric acid, sugar, permitted food colour, essence, spoon, mixer, measuring jar etc.

**Method:-** After peeling, the pineapple should be juiced in the mixer. Heat it by adding the same amount of sugar and stir it well. Then pour some citric acid till it boils well. When it reaches the stage of leaving off from the vessel, add colour and essence with it and stir it well. After cooling pack it in bottles.

### **21. Bio-pesticides**

#### **A. Tobacco decoction**

**Materials required:** tobacco, water, ordinary bar soap.

**Method of preparation:** Steep 500 gm of tobacco in 4.5 litres of water for 24 hours. Dissolve 120 gm of ordinary bar soap separately in 0.5 litre of water. Add the soap solution to the tobacco extract and stir vigorously. Add 5 litres of water to this stock solution and spray.

### **B. Neem oil & Garlic emulsion**

**Materials required:** Neem oil 200ml, Garlic 200gm, ordinary bar soap 50gm.

**Method of preparation:** Slice the bar soap and dissolve in 500ml lukewarm water. Grind the garlic pearls. Mix it with 300 ml water and strain to prepare garlic extract. Pour 500 ml soap solution into 200 ml neem oil slowly and stir vigorously to get a good emulsion. Mix the garlic extract in the emulsion. Dilute this 1 litre stock solution by adding 9 litres of water to get 10 litres of 2% emulsion.

### **22. Toilet soap making**

**Materials required:** Coconut oil 500ml, caustic soda, stone/talcum powder, colour, perfume, water, measuring jar, 2 plastic bowls, spoon, small jar.

**Method of preparation:** Dissolve caustic soda in 300 ml water and keep it for six hours. Put the colour in to the small jar and mix it in 10 ml oil. Pour the remaining oil into the plastic bowl and add the stone/talcum powder. Stir well till the powder dissolves completely. Add colour and stir well. Then pour caustic soda solution and perfume. Stir well till the mixture becomes thick. Grease the mould and transfer the mixture to the mould. Let it for setting. After 24 hours remove the soap from the mould.

### **23. Mushroom cultivation / Oyster mushroom**

**Materials required:** Seed, polythene cover, hay etc.

**Method:** While we hear about mushroom, the image into our mind is, about the mushroom that are grown with various colours and shapes in our premises on decayed tree stumps in our compound. Since time immemorial human beings have been using mushrooms as a food product. Now mushroom cultivation has developed into a state of getting mushrooms at any time and place compared to its availability only during the rainy seasons in the earlier days. As a result of the relentless perseverance of scientists and the farmers, mushroom cultivation has become easy and profitable.

Oyster mushroom cultivation is the most appropriate one for Kerala as compared to the other ones. It is suitable for any type of weather and is now available in Kerala. Mushroom cultivation will be a positive remedy to the unemployment and malnutrition in our society.

Agriculture method of oyster mushroom is very simple and less expensive. But training and experience is a minimum requirement for the successful cultivation.



The core factor of this cultivation is nothing but the availability of proper seeds and equipment. The seeds should be brought only from trusted sources or it should be made yourself.

Cultivating mushrooms in polythene cover is the suitable way. Usually hay is used as the medium for cultivation. It can also be done in the saw-dust of rubber wood. Approximately 150-200 gage polythene covers should be used for cultivation. Cover will be ready for the cultivation if you put 10 or 12 holes somewhere in the cover with a perimeter of 30 cm and a length of 60 cm.

Hay making – Hay can be used either by slicing it into small pieces (5 to 10 cm) or scrolls like wisp with an approximately 30 cm diameter and weight 500 grm. The hay should sink in the water for getting soaked up to 16-18 hours. After pouring out the water the wet hay should be boiled in water 30-45 minutes. The boiled hay after getting cool is ripe enough for sowing the seed.

Likewise the saw-dust of rubber wood can also be prepared. Put the saw dust in a gunny bag made of jute fiber into the water for getting soaked, it will be easy to heap it up. The saw dust should be left for soaking up to 18-20 hours.

Sowing method – The hay prepared as mentioned above, should put into covers which are already prepared by filling it layer by layer and then sow the seed. It is enough to sow the seed through the side of the inner part while layering each hay seed. 3-5 layers can be filled in each bed (approximately 1kg hay). The upper portion of the filled cover should be tied together. The covers should be placed in a dark room with lesser air movement. The mushroom strings will grow better in the hay layers inside the cover when it reaches 12-15 days. Then the cover should place somewhere, where we could get enough air, cooling and light.

Watering – The bed after cutting the cover should be made wet in the morning and evening after one day according to the need. It will be better to give the heat of a tube light upto 2or 3 days. The mushrooms will be sprout within 2 or 3 days and the sprouted mushrooms will be ripe enough to pluck within this period.

Harvesting – Ripened mushroom should be plucked without causing any damage to the bed. Mushrooms should be plucked without letting its roots to remain in the bed. Clean the plucked mushrooms immediately. Fill the cleaned mushrooms in poly propellin covers( approximately 200 grms) and seal it. If the sealed mushroom packets are kept in a cool environment it will remain without any damage up to 8-10 days.

The beds which have once undergone the harvest should keep dry for a day and continue the watering accordingly. The second crop will be ready for harvest within 6-7 days. If you nurture the bed with the same care, it will automatically get ready for the third harvest. Once the harvesting is over you can change the bed into fertilizers.

Diseases and insects affecting the mushrooms – There are various insects which affect the growth of the mushrooms. Bees belonging to various creeds destroy the mushroom - medium and the mushroom itself. Bees get into the holes inside and lay eggs on the plastic cover which is wrapped in the bed. Attacks from the bees increase the growth of the bacteria and consequently lead to the decay of the bed.

Insects control – Mix 10 ml gingelly oil with 1 liter water and spray on the bed. It is better to spray after 4 o'clock. Here we can save water by avoiding spraying in the evening. Likewise continue the same for 3 days. If the bodintre has gone 30% decayed, spray the sodium carbonite on the areas having green marks. It need not to be watered up to 48 hours. If it has gone 70%, the bed should be destroyed. Bury the cover after sowing sodium carbonite where the green colours are seen on the opened cover. If there is any bad smell on the span run directions, then destroy the bed immediately itself.

After each harvesting, the bed should be dissolved into 2 grms of bleaching powder and 10 liters of water and spray it in the morning and evening. It will help to kill the insects.

Plan and construction of mushroom hall – The length and width of the mushroom hall can be changed according to the need. The hut should be constructed in the east-west direction to maintain the heat inside by avoiding sunlight. There should be less light and more air movement in the mushroom hall. It is better to prefer leaf thatched hut on the plain regions and asbestos huts in the higher region where there is comparatively lower heat.

The roof can have approximately 4 meters height. It is easy to maintain heat by constructing a fake roof of 2.5 meter height from the ground. The hut should be covered around and it should have a door and a window. You can put net on the window to avoid the attack from insects and other beings. Hanging gunny bag made of jute fiber inside the hut and watering the ground and sides 2 times a day will help to maintain moisture inside the hut.

#### **Precautions –**

- Fix net on each window and door for preventing the insects and bees
- The workers engaged in the mushroom cultivation should wash their hands and legs with dettol.
- The beds once used for cultivation should not be left inattentively around the mushroom hall.
- Destroy the small bushes around the mushroom hut.