

Total No. of printed pages = 7

END SEMESTER EXAMINATION – 2020

Semester : 6th

Subject Code : FPT-603

TEA, COFFEE AND COCOA PROCESSING

Full Marks – 70

Time – Three hours

The figures in the margin indicate full marks
for the questions.

Instructions :

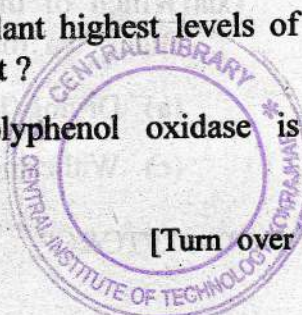
1. *All* questions of PART–A are compulsory.
2. Answer any *five* questions from PART–B.

PART – A

Marks – 25

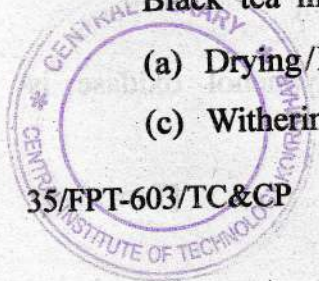
1. Answer each of the following question in a word
or single sentence : $1 \times 25 = 25$
 - (i) Why leaf disruption step is important ?
 - (ii) In which part of tea plant highest levels of
polyphenols are present ?
 - (iii) Where activity of polyphenol oxidase is
most ?

[Turn over



- (iv) Theaflavins provide the attribute _____ and _____ to tea. (Fill in the blank)
- (v) How theaflavins are formed ?
- (vi) What is the percentage of thearubigins in dry weight of black tea ?
- (vii) Which type of compounds impart aroma in tea ?
- (viii) What is the heating temperature range in a pan for pan-firing type green tea ?
- (ix) What is the final heating temperature range for Sen-Cha process green tea ?
- (x) What is the percentage of catechins in dry leaves ?
- (xi) What is the percentage of moisture present in tea after withering ?
- (xii) Plucking table is when tea is pruned and kept at a considerable height to be plucked by tea pluckers. (Write true/false)
- (xiii) Which of the following is NOT a step in Black tea manufacture ?

- (a) Drying/Firing (b) Rolling
(c) Withering (d) Lump formation



(xiv) Difference of Green tea from Black tea is that

- (a) The oxidation process is omitted
- (b) The tea leaves are steamed in a pan before being rolled so that the enzymes don't interact with air and oxidize
- (c) Both of the mentioned above
- (d) None of the mentioned above

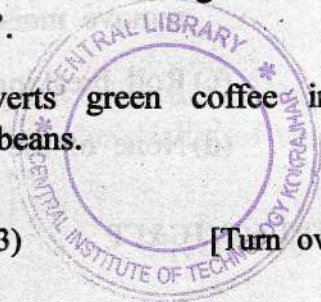
(xv) Ripened berries sink in water and unripe ones float on water. (Write true/false)

(xvi) The process of tasting coffee is called _____.

- (a) Cupping
- (b) Green coffee
- (c) Both of the mentioned above
- (d) None of the mentioned above

(xvii) Which of the following is untrue ?

- (a) The coffee beans after milling are called 'Green Coffee'.
- (b) Roasting converts green coffee into brown coffee beans.



(c) During roasting, the coffee beans are heated in absence of oxygen called pyrolysis. They are kept moving so that they are de-void of moisture but at the same time do not get burnt.

(d) None of the mentioned.

(xviii) Statement 1 : Finer the grind, faster is the coffee prepared.

Statement 2 : Roasting of coffee beans gives it their aroma and flavour.

(a) True, False

(b) True, True

(c) False, False

(d) False, True

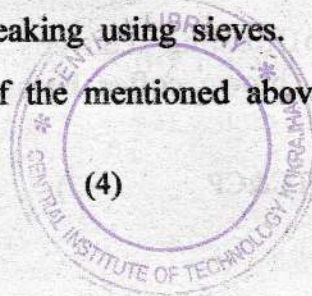
(xix) Which of the following is NOT a step in Black tea manufacture ?

(a) Rolling of the leaves on a horizontal roller.

(b) Putting the leaves in a vacuum drier to remove moisture.

(c) Roll breaking using sieves.

(d) None of the mentioned above.



(xx) Oolong Tea is _____.

- (a) Mixture of Green and Black teas
- (b) Partial Oxidation takes place
- (c) The leaves are greenish brown
- (d) All of the mentioned above

(xxi) Which of the following tests do coffee beans have to undergo ?

- (a) Visual test
- (b) Aroma test
- (c) Tasting by a cupper
- (d) All of the mentioned above

(xxii) Percentage of moisture content in tea leaves after physical withering is _____.

(Fill in the blank)

(xxiii) Statement 1 : Fine plucking is the earlier half of tea plucking and the quality of tea is good.

Statement 2 : Coarse plucking is the second half of tea plucking and the quality of tea is not so good.

(a) True, False

(b) True, True

(c) False, False

(d) False, True

(xxiv) When cocoa cake is obtained ?

(xxv) Cocoa butter is a bi-product in cocoa processing. (Write true/false)

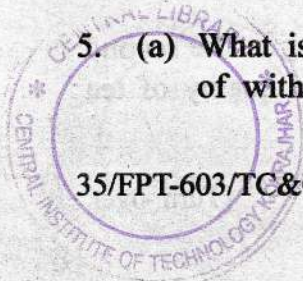
PART - B

Marks - 45

2. How tea can be processed ? List the various steps. Explain the fermentation and drying steps during processing. 1+4+4=9
3. Define Tea. What are the different species of tea used for processing ? Discuss about the present status of tea production in India and compare the data with global production. 1+2+6=9
4. Discuss in details the different steps in coffee processing. 9
5. (a) What is withering of tea ? Discuss the role of withering in tea processing. 5

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(6)



- (b) What is MINAS ? State the air emission standards and waste water discharge standards given by CPCB. 4
6. (a) Explain the processing of cocoa in details. 6
- (b) Draw the product flowchart of cocoa beans. 3
7. (a) List out the various composition of mucilage and coffee pulp in percentage level and discuss its importance. 3
- (b) Explain the function of pulpers in coffee processing with a diagram. 6

