Printed Pages: 2 **Sub Code: NAG-052**

Paper Id: | 1 | 8 | 0 | 8 | 0 | 7 | **Roll No.** | | | | | | | | | | |

B.TECH
(SEM VIII) THEORY EXAMINATION 2017-18
CROP PROCESS ENGINEERING

Time: 3 Hours ***Total Marks: 100***

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. 2 x 10 = 20

a. Define Fineness modulus.
b. On what principles Pneumatic separation works?
c. Discuss about the principle of crop processing.
d. Write down sieves chart.
e. What is unsized separation?
f. What is principle of size reduction?
g. Write down two operation of crop processing.
h. What is Rittenger's law?
i. Define grain shape.
j. What do you mean by milling?

SECTION B

2. Attempt any *three* of the following: 10 x 3 = 30

a. Write FPO requirements for installation of a small scale fruit processing industry in Uttar-Pradesh.
b. What do you mean by oil expeller? Write down the mustered processing with flow diagram.
c. What do you mean by theory of filtration? Define mixing index.
d. Explain the procedure of fruit processing.
e. What are the desirable design features of processing equipments? Describe.

SECTION C

3. Attempt any *one* part of the following: 10 x 1 = 10

a. Explain the procedure of scalping and screening of fruits.
b. Write short notes on :
   i. Bucket Elevators
   ii. Gravity Conveyor

4. Attempt any *one* part of the following: 10 x 1 = 10

a. What is the theory of mixing and mixing index?
b. Explain the construction and working of Burr-mill.

5. Attempt any *one* part of the following: 10 x 1 = 10

a. While crushing a material it is observed that 80% of the product is less than 6.35mm in size. The power required is 10kw.calculate the power required to the same feed if 80% of the product is to be less than 3.18mm?
b. Write down the scope, importance and principle of food processing.

6. Attempt any *one* part of the following: 10 x 1 = 10

a. Explain principle involves in size reduction in detail.
b. Discuss the status and scope of food processing industry in our country

7. Attempt any *one* part of the following: 10 x 1 = 10

a. Explain the working of belt conveyor.
b. Design a horizontal screw conveyor for conveying grain (bulk density = 640 kg/m^3) with required capacity of 2 tonnes/hr and for conveying length of 5m. The diameter of screw conveyor is 5cm. Assume data wherever necessary.