NATIONAL INSTITUTE OF TECHNOLOGY TIRUCHIRAPPALLI

Dept. of Metallurgical and Materials Engineering (MME)

Question paper for **Semester Examination**

B.Tech. VIII Sem. (multiple branches)

MT 472 NEW PRODUCT DEVELOPMENT   (Global Elective)

Wednesday, May 7, 2014   10:00 am – 1:00 pm   Max. Marks: 50

(Considerable amount of information has been taken from the open web. Information has been "borrowed" for academic purpose only. Some names / details have been modified / adapted to suit this examination. Answer the questions, in the context of the description / brief case study.)

(Questions 1 and 2 carry fifteen marks each. Question 3 carries twenty marks.)

1. A company called Design 4 Plastics helped a start-up company called SkiA develop their launch product (called SkiA Sweetspot Trainer) from an initial idea for a "dry-land" based ski training aid into a production reality.

'The trainers fit onto all sizes of ski boot and help users learn essential balance skills that improve turning efficiency and develop better skiing technique. They include a series of different sized balance blocks that provide increasingly difficult challenges to teach perfect posture, promote dynamic movement and guide centred pivoting. The Foot Plate component design cleverly combines a rigid platform with flexible sections that adjust to the shape of any boot. (We) developed the design from initial concepts, through test rigs and fully detailed 3D CAD models to working SLS prototypes for extensive performance testing. (We) designed the product packaging and sourced, supplied and managed manufacture of the production tooling and finished boxed products from (our) network of Far East partners.'

<u>What are the learning pains that the designer has apparently tried to overcome? In your opinion, how has technology been used in delivering the product?</u>

2. A certain company has come up with a gadget to help golfers record their swings (movements) (and to review the same). Describe, in your own words, <u>how concepts related to product development and requirement engineering have been used in this developmental activity</u>.

FOCAL GOLF

SMARTPHONE HOLDER

RECORDING YOUR SWING HAS NEVER BEEN EASIER

- Clips easily and securely to your golf bag

- Adjusts to allow recording at different angles

- Rubberised bracket flexes to fit all leading smartphones

- The bracket grips & protects your phone, without having to remove any standard protective cases

- No obstruction of the touch screen or camera

- No need to move your phone to review your footage

RECORDING YOUR SWING HAS NEVER BEEN EASIER

PHONE BRACKET

ANGLE ADJUST BUTTONS (X2)

BAG CLIP

1.
Position your golf bag safely and securely at the appropriate location. We also recommend that you take out all the clubs you intend to use.

2.
Securely attach the FG Smartphone Holder to your golf bag using the bag clip.

3.
Insert your phone and pinch the 2 angle adjust buttons to set the required angle.

4.
Press record on your swing app & enjoy the benefits of being able to record your swing so easily.

3. Enclosed is the extract from the first page of an article on product design for e-learning programme. (The authors, elsewhere, convey that e-learning is not mere information presentation; and that e-learning should empower the learner become an achiever.) Considering the information provided, describe in your own words, <u>how tasks / activities such as learner need analysis, brainstorming, documentation, interaction design and so on should be conducted for the cited product</u>.

'**Product Design: A Case Study**

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Abstract
This paper presents a case study of an e-learning programme for a course in refrigeration. Instructional design and visual communication at Learningbyte, in an attempt to break away from the linear process of handling responsibilities, collaborated to evolve a unified strategy for product design. This implied that the user's experience would be meaningful and contribute to his performance at work. The efforts of this product design team were aimed at exploring the possibility of setting standards that might influence the future of e-learning.

1. Introduction
E learning enables, evaluates and empowers. Traditionally, Learningbyte has provided customised e-learning solutions for industry segments like airlines, automobiles, pharmaceuticals, manufacturing, banking and insurance. Most of the end-users are whitecollared executives because of the easy access to the Internet and computer literacy. But with the changing market scenario, today Learningbyte has set itself the challenge of designing and developing e-learning solutions for the blue collared employees as well.'

BEST WISHES. See you in the mini-project presentation session soon!

Coordinator: SRS / NPD el. / **End Semester** / May 6 / 25 i