



PROGRAM : NATIONAL DIPLOMA
ENGINEERING: MECHANICAL
ENGINEERING: INDUSTRIAL

SUBJECT : **MECHANICAL MANUFACTURING
ENGINEERING I**

CODE : **IMV 1111**

DATE : WINTER SSA EXAMINATION 2015
22 JULY 2015

DURATION : (SESSION 1) 08:00-11:00

WEIGHT : 50: 50

TOTAL MARKS : 150 (140 marks = 100%)

EXAMINER : MD MUKHAWANA

MODERATOR : MR F. TEKWEME

2089

NUMBER OF PAGES : 3

INSTRUCTIONS:

- 1) ALL SKETCHES MUST BE DONE WITH DRAWING INSTRUMENTS. MARKS WILL BE DEDUCTED FOR UNTIDY WORK.
- 2) STUDENTS MUST SUPPLY OWN DRAWING EQUIPMENT.
- 3) ANSWER ALL THE QUESTIONS.

QUESTION 1

- 1.1 Give 4 basic causes of accidents. (4)
- 1.2 Give 5 reasons on why workers fail to report incidents at work. (5)
- 1.3 Name three taps in their order of use. (3)
- 1.4 Name 2 types of screwdrivers for hard to reach place. (2)
- 1.5 Name 3 types of cut of files. (3)
- 1.6 Name 3 types of hammers. (3)
- 1.7 Draw and label a hacksaw. (5)

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QUESTION 2

- 2.1 Give 7 general rules for using measuring equipment. (7)
- 2.2 Name 4 uses of a Vernier. (4)
- 2.3 List 10 tools to use during marking. (10)
- 2.4 What is accuracy of the following measuring equipment?
 - a. Vernier caliper
 - b. Vernier height gauge
 - c. External micrometer
 - d. Dial test indicator(4)

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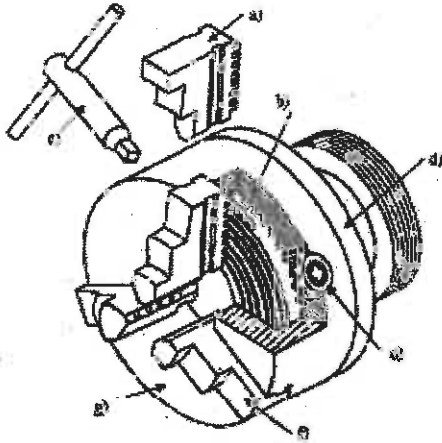
QUESTION 3

- 3.1 Name 5 non-ferrous metals. (5)
- 3.2 Name 5 different heat treatments of steel. (5)
- 3.3 Give 1 example each where coarse and fine threads are used. (2)
- 3.4 Give 5 devices used for locking nuts and bolts. (5)
- 3.5 Give 5 types of keys. (5)
- 3.6 List 5 types of pins. (5)

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QUESTION 4

- 4.1 Give 10 safety measures with regard to the centre lathe. (10)
- 4.2 Name 6 kinds of lathe centres. (6)
- 4.3 State 4 basic cutting method on a lathe. (4)
- 4.4 Label the following three jaw chuck. (7)



- 4.4 Give 5 operations that can be performed on a milling machine. (5)

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QUESTION 5

- 5.1 Name 5 things to be considered in the selection of grinding wheels. (5)
- 5.2 Name 2 types of twist drills and their sizes. (2)
- 5.3 Name 10 safety measures with regard to the use of the drilling machine. (10)

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QUESTION 6

- 6.1 Give 5 health and safety measures pertaining to the use of an angle grinder. (5)
- 6.2 Name three advantage of using a cutting fluids. (3)
- 6.3 Give 6 properties of good cutting fluids. (6)
- 6.4 Name 10 clamping accessories. (10)

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TOTAL MARKS AVAILABLE = 150 (140MARKS = 100%)