



ASSESSMENT AND EXAMINATIONS DIRECTORATE

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NSC 2016 CHIEF MARKER'S REPORT

SUBJECT	ELECTRICAL TECHNOLOGY (ELTT)
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PAPER	1
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DATE OF EXAMINATION:	OCT/NOV 2016	DURATION:	3 HOURS
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SECTION 1: (General overview of Learner Performance in the question paper as a whole)

This question paper was fair, up to standard for grade 12 curriculum and all cognitive levels were taken into consideration. Not much different from other previous question papers, even the learners didn't perform badly in this question paper as compared to last year's one. This year's question paper learners improved a lot.

SECTION 2: Comment on candidates' performance in individual questions (It is expected that a comment will be provided for each question on a separate sheet).

QUESTION 1

(a) General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?

This question was not badly answer by learners.

(a) Why was the question poorly answered? Also provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.

1.1 All learners perform well as it is a grade 10 work unsafe actions. The

1.2 Learners were bit confused by dangerous practice in a workshop but some of them got the right answer.

1.3 This question was not difficult to learners.

1.4 Learners confuses this with bleeding, please teachers clarify for learners and give difference.

1.5 Learners were confused in this question; they did not link this question with unsafe conditions.

1.6 Some learners answered this question by listing the risk management not giving the risk analysis.

(b) Provide suggestions for improvement in relation to Teaching and Learning

Teachers go through chapter 1 with learners even though it was done in grade 10 and grade 11. Learner should be given more exercises in chapter 1. Exercises should be from the previous year's question papers.

(d) Describe any other specific observations relating to responses of learners

Learners were not clear about the proper ventilation in a workshop. Some learner said for fresh air.

(e) Any other comments useful to teachers, subject advisors, teacher development etc.

Educators should give learners more activities to do in chapter 1 some that learner can get used to this chapter.

QUESTION 2

General comment on the performance of learners in the specific question.

a) This question was not answered bad.

Only in 2.5 where learners did not do well, learners only know one method improving the poor power factor.

The other thing that make learners not do well in their calculation they forget to put units of which it is the important part of our subject to know what are you calculating.

QUESTION 3

3.1 Learners give the types of transformers instead of the function of oil in transformer.

In 3.3 learners gave the advantages of three-phase motors instead of three-phase transformers.

3.4 Learners did not know why the transformer cannot step-up the power.

The answer is 'In an ideal transformer input power and output power is the same'.

QUESTION 4

This question was not answered well;

4.1.1 Learners did not know whether there is an electrical connection between the stator and the rotor. Of which there is NO connection.

4.1.2 Learner couldn't give the operation of the motor properly. In the book it is given in point form to avoid confusion.

4.1.3 Learner with workshop in their school were able to answer this question.

4.6 Learners are still using COS 0,87 as a power factor. Educators should give more exercise to learners that involve calculation of power using power factor so that learners know what to do.

4.8 was not answered well, educators only put their focus on those starter motors for simulation and also schools that have workshops and equipment only have one motor so schools cannot demonstrate sequence starting.

QUESTION 5

This question was not answered well;

5.1 Learner couldn't differentiate between impedance and reactance. But learners know impedance and reactance.

5.2 Learners couldn't explain phase but they know and use phase angle when calculating power factor.

5.3.1 Learners couldn't answer this question, they didn't understand the graph of which they know it is about resonant frequency.

5.5 Very few learners who were able to answer this question correctly, educator should give learners different types of activities so that learners can understand many way of answering different questions.

QUESTION 6

This question was answered well except for those few questions learners got confused;

6.3 In this question learners didn't perform well they give advantages instead of disadvantages of hardwired system.

6.6 Learners should be thought to simplify the Boolean equations and they should consult grade 11 textbook for more information.

6.9 Learners loss marks in this question, they draw the ladder diagram but they did not label it.

QUESTION 7

There was a great improvement in the way learners perform in this question; very little things that were confusing learners;

7.2 Learners were not able to answer this question that says describe the term unconditional stability. Learners need to be given lot of activities that will address this concerned.

7.7.3 And 7.7.4 It was said these two questions should not be marked because of the wrong formula on the formula sheet, but learner lost 6 marks because they got these question correctly and I recommend that, there should be increase 6 mark (3%) in the marks.

RECOMMENDATIONS:

- Each learner should have his/her own calculator from January till the final exam time.
- Learner should know how to change the subject of the formula in a formula.
- Schools that are doing electrical technology should have workshops where they do their practical and learners know how motors work.
- Learners should be given more questions to answer before they go for final examinations.