

ASSESSMENT AND EXAMINATIONS DIRECTORATE

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NSC 2014 CHIEF MARKER'S REPORT

SUBJECT	EGD
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PAPER	1
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DATE OF EXAMINATION:	4 NOVEMBER 2015	DURATION:	3 HOURS
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This section of the instrument is aimed at providing valuable feedback to schools, subject advisors, teachers and learners about common errors committed by candidates in the answering of questions, to assist teachers and subject advisors to identify areas that need to be given special attention in the teaching and learning of the subject in 2015.

Your responses will be based on two parts:

Section 1: General overview of Learner performance in the question paper as a whole

Section 2: Comment on candidates' performance on individual questions (Detailed explanations must be provided **per question** as follows: (You may include sub questions where necessary))

- General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?
- Why the question was poorly answered?
- Provide suggestion for improvement in relation to teaching and learning
- Describe any other specific observations relating to responses of learners
- Any other comments useful to teachers, subject advisors, teacher development

SECTION 1: (General overview of Learner Performance in the question paper as a whole)

Generally the question paper was of a good standard and was within the capability of the candidates who covered all of the prescribed content and worked consistently throughout the year. Some centres performed exceptionally well while others were quite weak. Most learners found the question on interpenetration and development very challenging and a large percentage of learners did not attempt this question at all.

The analytical question was attempted by all learners but again as in previous exams, the perimeter and area calculations were poorly answered.

The perspective view was also not answered well compared to previous years. The reason for this is because most learners were not familiar with the PP and VP's being on the same line and many learners did not know how to start the drawing. The result was that a range of incorrect interpretations of the view were given. The concept of marking with the mistake had to be implemented by markers in most cases.

The civil question was attempted by almost all learners with most achieving average results. There were however some centres which performed exceptionally well, but this was the exception. The most common mistake made by learners in this question was to use the wrong scale, misaligning views and superimposing views onto each other.

The time allocated to complete the paper was sufficient if candidates were thoroughly prepared. The paper covered most of the grade 12 content and concepts as prescribed by the NCS guidelines. Enough content and concepts were tested despite the fact that there were only four questions. All the questions fell within the scope of the prescribed syllabus and no unfair questions were asked.

SECTION 2: Comment on candidates' performance in individual questions

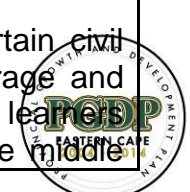
(It is expected that a comment will be provided for each question on a separate sheet).

QUESTION 1

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

ANALITICAL:

This question tested the ability of the candidate to read and identify certain civil features on a site plan, with an existing house and a proposed new garage and timber deck. This question was attempted by all learners with only a few learners getting full marks. The first 5 low level questions were answered well, the middle



order questions not so well and the higher order questions involving calculations were not answered well at all by most learners. The last question which consisted of a convention of a bath, was surprisingly badly answered. This is a convention that was taught from grade 10 and should not have presented any problem to the learners at all.

This was a fair question and candidates could have obtained more marks if they had worked through past examination papers and applied themselves during the year.

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

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

The maxim “practice makes perfect” applies here to the fullest degree. There are many good analytical type questions in past exam papers. These questions can be worked out regularly or used as class tests. Several questions are repeated yearly. The only way to get to know the terminology used in paper 1 is to work through as many of these analytical questions as possible. Candidates can score good marks in a short period of time in the exams if they do well in this question. Reading with understanding should be practiced continuously, especially where the required unit of measurement is concerned,

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

Printing neatly and legibly is of vital importance in EGD. Learners tend to answer these questions in cursive and illegible handwriting. This practice is then carried over to the other questions where they will be penalized. These answers are supposed to be printed neatly according to drawing standards. Answers must be written with a pencil and not with a pen. The letters should be formed according to the SABS code of practice. The answers must be placed in the appropriate space provided.

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

Teachers can get together and discuss relevant problem areas. Cluster meetings can also be used more productively in discussing the content of the exam paper and the report on the learners' responses. Weaker schools will benefit a great deal from this discussion. Many queries and challenges can be resolved by these informal discussions. The first cluster meeting of the year could be utilised as a memo discussion of this paper. This meeting must be held as early as possible in the first term to allow grade 12 teachers to go back and implement the suggestions made here.

QUESTION 2

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

INTERPENETRATION AND DEVELOPMENT:

This question was very poorly answered by most learners. Only a few learners managed to get a good mark in this question, with the majority of learners getting marks for reproducing the given views only. A large percentage of learners did not even attempt this drawing at all.

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

It is very clear from the answers that this section of the work had been neglected or very superficially done. The first problem was that candidates could not draw the given information because of their inability to draw a basic hexagon. Learners struggled to draw the rotated hexagon in the top view as well as placing the triangular branch in its correct position. Most learners did not plan the drawing of their views correctly causing them to run out of space for the placement of the right view. This problem could have been avoided if a starting point was given on the answer sheet to place the top view. Many unnecessary mistakes with placement of views would have been prevented. The other common mistake learners made was to draw a left view incorrectly by showing the triangular prism in solid lines. This mistake caused them to lose all the marks on the inside of the upright hexagon because this view portrays both elements of first and third

angle orthographic projection. Many other interpretations of the right view was also given.

Most learners did not even attempt the development after incorrectly drawing the curve of interpenetration in the front view. Another common mistake was to place the required seam of the development in the wrong position and not plotting the turning points of the development correctly. If a starting point for the seam was given on the answer sheet, it would have helped the learner in the layout of the drawing.

(c)

Provide suggestions for improvement in relation to Teaching and Learning

Learners must be exposed to this type of question as this type of question will certainly appear again in future papers. There is not enough time in the classroom to cover all the different variations of this type of question, therefore learners must be prepared to also work at home if they wish to master this type of problem. Many of these questions from past exams are still in third angle, teachers must make sure that all examples in this section, given to learners must be in first angle orthographic projection. Similar questions are covered in the Gr. 11 syllabus.

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

The question must be read correctly and answered what had been asked. The question had been asked in first angle projection but was often drawn in third angle projection. The placement of the given views is important as this determine the space remaining for placement of the required views. There will not be enough time for a learner to erase his mistake and start over.

Learners must also be made aware that showing hidden detail are often required in these drawings.

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

To improve the visual perception and insight required in these questions, teachers should encourage learners to make paper models of their developments by cutting out their answers and folding it into 3D models. This will improve the learners insight into this type of question.

Also teachers should discuss this type of question at cluster meetings or arrange special meetings for teachers who are experiencing problems conveying this knowledge to their learners. Weaker schools will benefit a great deal from these



discussions. Many queries and challenges can be resolved by these informal discussions.

QUESTION 3

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

PERSPECTIVE:

This question was also answered poorly compared to previous years. The question contained a few elements that were unusual causing them to come up with a variety of incorrect answers. Although the principal of marking with the mistake was applied by markers in most cases, learners still did not perform as well in this question as they did in previous exams.

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

The question was unusual in that for the first time in a November exam, the PP and HL was located on the same line. Also the true height lines i.e. the lines touching the picture plane, were located on either side of the SP. This confused the learners as they are used to seeing this as a starting point directly in line with the SP. In many cases learners created their own height line, causing them to come up with a variety of different interpretations of the view. Other reasons for learners poor performance are:

- Inability to create accurate vanishing points
- Not labelling the vanishing points
- Creating their own HL
- Moving the SP to a new position
- Not being able to construct and plot the curved surface which this year was located on the top view as apposed to the front view.
- Not being able to locate points and lines which do not touch the PP

Many candidates only managed to determine the two vanishing and left the rest of the question out completely.

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

Learners are required to draw Two point perspective drawings in Grade 11. A good foundation must be laid in Gr. 11 already. Teachers must ensure that the work done in Gr. 11 is not neglected as they are being prepared for Grade. 12. A good number of two point perspectives from National and Provincial papers must be drawn out as these examples are of the correct standard. A two point perspective drawing will most likely always be asked in the exam papers so learners must be well prepared for it.

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

This question contains a large number of construction lines that must not be erased as valuable marks can be lost. If the candidate determines the vanishing points incorrectly, he/she only loses the marks for the vanishing points. The rest of the question is marked according to his/her mistake. These construction lines assist the markers if the drawing is slightly inaccurate or even incorrect. Particular attention must be paid to accuracy and neatness. Learners must be taught a variety of possible starting points for these type of drawings. Arcs and circles on vertical and horizontal surfaces have to be practiced.

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

The only way to improve the marks in this question is by working consistently throughout the year. There are many examples available from past exam papers that could be used to entrench the principles required to draw good accurate perspective drawings. Teachers must make sure that learners know how to plot points that do not touch the picture plane.

QUESTION 4

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

CIVIL DRAWING:

The entire question or part of the question was attempted by all candidates. The performance of the candidates varied from fair to very good. Unnecessary marks were forfeited simply because candidates do not read the question paper properly before attempting the question. Learners must be made aware that there are always notes to be read and schedules to check. If the candidate did not read the question properly, the incorrect scale was used for the sectional elevation in many cases. It can be clearly seen from these mistakes that attention was not given to the notes and schedules. This question consists of three sections. Completing the floor plan, drawing a north elevation and a sectional elevation through a cutting plane.

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

Learners lost many marks through not reading the question properly. In this question you cannot assume what is required by the examiner - you have to read the question. By not doing so, candidates will lose many marks. The main reasons why learners performed badly in this question are:

FLOOR PLAN

- (1) Labels - inserting the room designation and floor finish was often neglected. In many cases only the one component was given, either the room designation or the floor finish. Learners were also penalised for not printing neatly in capital letters.
- (2) Electrical - the graphical symbols must be used from the given legend
- incorrect symbols were used at the designated points
 - fluorescent lights were drawn without it's designated wattage as indicated
 - on the legend
 - the electrical wiring must not be drawn as a straight line with a straight edge but curved freehand. The switch socket outlets were often omitted.
 - the symbol for the ceiling light was often incorrect.
- (3) Windows & doors- marks were deducted for not being the correct length, window frame incorrectly positioned and not showing the window sill. In some cases the swing of the doors wer not shown or done free hand. These



similar mistakes occurred last year.

Marking this view would be made much easier if the gaps for the windows were on size. Most learners only fill the space without calculating the actual width of the window. There are many other places in this question where learners ability to convert scales are tested.

- (4) Hatching - hatching was not always compliant with the SANS 10143 document. Often done freehand and mechanical representation was used. Some of the walls were only partially hatched.
- (5) Fixtures - the exact graphical symbols must be used as specified in the question paper. The symbol was either correct or wrong. Consult the SANS 101143 document for the correct graphical symbol. No marks were awarded if the pictorial view from the exam paper was used.

NORTH ELEVATION

The instructions on the front cover clearly states that first angle principles must be used. However, candidates seem to ignore this instruction, with the result that they are penalised for incorrect alignment or rotation of views.

Common mistakes that were observed are:

- (1) The roof height was mostly incorrect. Because the information for calculating the roof height was insufficient, a tolerance of 5mm was granted to the learners.
- (2) The vertical lines where the fascia boards meet was often left out.
- (3) The rain water down pipe was often places on the side of the north view instead if in the front. The gully for the RWDP was often not drawn.
- (4) The window was often incorrectly placed with no window sill and inaccurate.
- (5) The FFL line often omitted.
- (6) The required labels were very untidily placed anywhere near the view. Labels must be placed in the appropriate places. The correct abbreviation must be used and printed horizontally so that it is legible.

SECTIONAL ELEVATION

This elevation had to be drawn to a scale of 1:20. Many learners lost marks for using an incorrect scale.

The following mistakes were commonly made.

- (a) the roof pitch is set at 30° which was not always the case from the candidates answers
- (b) the purlins spacing and size was incorrect
- (c) the wall plates are not shown
- (d) the fascias and gutters were often omitted
- (e) Incorrect and incomplete roof truss
- (f) the roof cover was in many cases omitted.

For the roof to be constructed correctly the schematic diagram of the roof truss and the given information must be analysed.

The foundation detail was not badly drawn but in some cases inaccurate. A lot of attention to detail becomes possible on a scale of 1:20 and learners must realise that



they will be penalised for any guesswork. Although substructure hatching may be done in freehand, learners often do this untidily and incorrectly. This entire substructure should be covered from grade 10 already according to the syllabus.

- (3) The window and bathroom fixtures were often the wrong size and position.
- (4) The DPC under the compacted hard core was often omitted.
- (5) The placing and inserting of required labels was poorly and untidily done.
- (6) The wall filling on the top of the outer walls were mostly omitted.

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

Teachers must firstly read the report containing the common mistakes made by the candidates in the November paper and convey this information to the learners. Learners must be taught to draw this view to a scale of 1:20 with emphasis on correct size and positioning.

These same mistakes must not occur again in the forthcoming exams. The only way to improve their marks is by ensuring that a variety of this type of question is worked through carefully taking note of the finer detail and emphasizing the special notes on the question paper. This question is time consuming and therefore the learner must be tested within a set time limit. The emphasis of this type of long question is time management and correct interpretation. Learners must try to increase their speed without compromising the quality of their answers.

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

First angle principles must be used in this question when looking at the required view. The sectional view must be drawn in the direction of the arrows and the correct scale must be used. Learners often don't know how to interpret a cutting plane. Attention must be given to correct sizes and placement of all components especially on a scale of 1:20. There are penalties for not adhering to this.

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

Teachers must emphasise that the various parts i.e. fixtures and all roof detail must be according to the scale given. Many of the components were out of proportion.

PLEASE NOTE:

Most of the mistakes made by the candidates mentioned above were also made in previous years. It appears as if this report is not read by the teachers or conveyed to the learners. Teachers and subject advisors must please scrutinize this report thoroughly and make sure that it is implemented.

Signature:

Date: