



**EXAMINATIONS AND ASSESSMENT CHIEF DIRECTORATE**

Home of Examinations and Assessment, Zone 6, Zwelitsha, 5600

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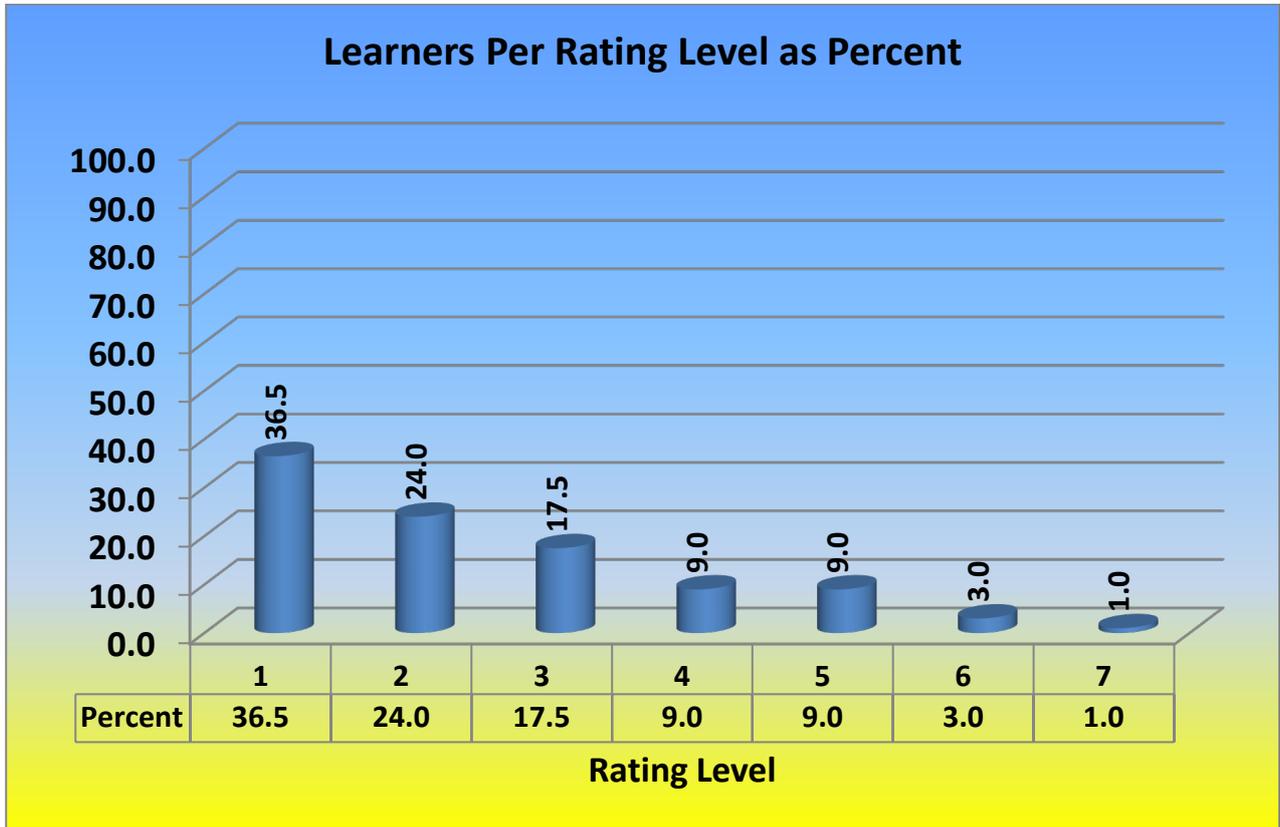
FITTING AND MACHINING

# **2018 NSC CHIEF MARKER'S REPORT**

<b>SUBJECT:</b>		<b>FITTING &amp; MACHINING</b>
<b>PAPER:</b>		<b>1</b>
<b>DURATION OF PAPER:</b>		<b>3 HOURS</b>
<b>DATES OF MARKING:</b>		<b>NOVEMBER 2018</b>

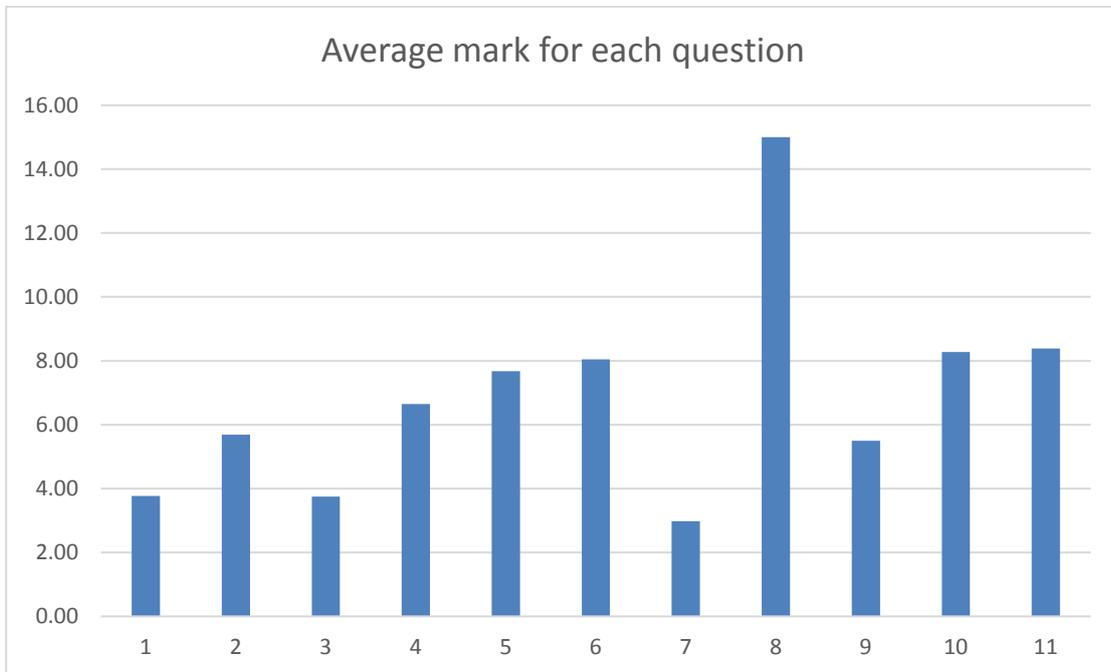
**SECTION 1: (General overview of Learner Performance in the question paper as a whole)**

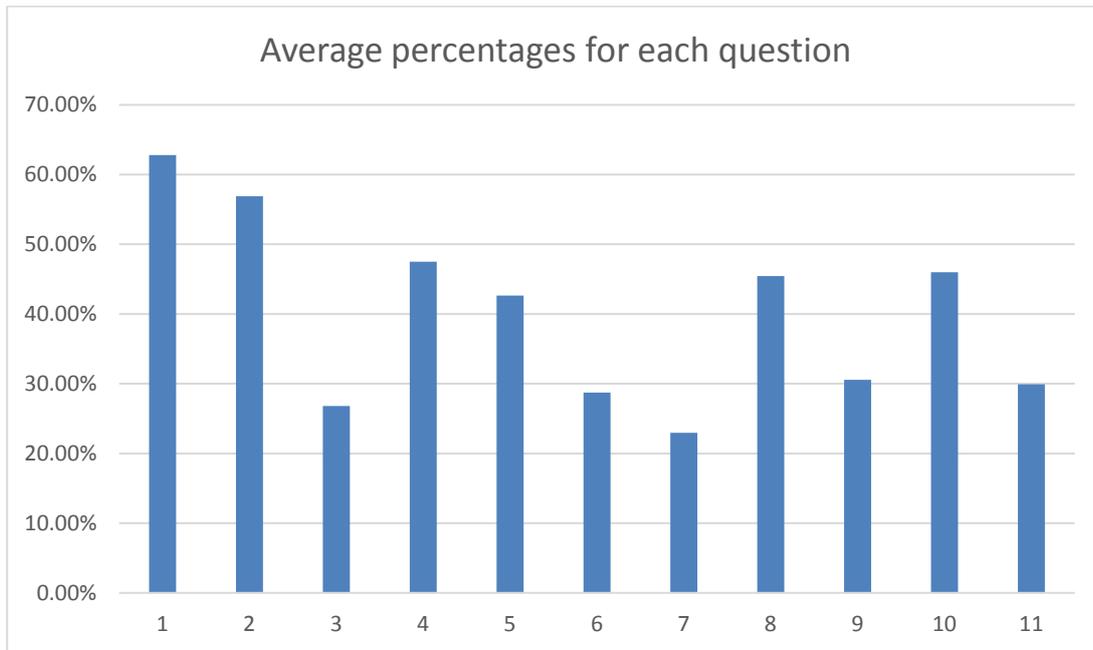
<b>Total Wrote</b>		<b>200</b>
<b>% Passed</b>		<b>63,5</b>
<b>Levels</b>	<b>Total</b>	<b>Percent</b>
<b>1</b>	<b>73</b>	<b>36,5</b>
<b>2</b>	<b>48</b>	<b>24,0</b>
<b>3</b>	<b>35</b>	<b>17,5</b>
<b>4</b>	<b>18</b>	<b>9,0</b>
<b>5</b>	<b>18</b>	<b>9,0</b>
<b>6</b>	<b>6</b>	<b>3,0</b>
<b>7</b>	<b>2</b>	<b>1,0</b>
		<b>100,0</b>




**SECTION 2: Comment on candidates' performance in individual questions**

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





<b>QUESTION 1</b>
<b>(a) General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?</b>
The overall performance of the learners is very poor, as indicated in the graphs above.
Four questions were above the 40% mark but below 50%
The first 3 questions were generics and one can see that the specialisation section need some improvement.
Q.1 Multiple choice questions. This section was generally well answered.
Q2 Safety. Although we need to practice safety in the workshop, the learners cannot relate to simple questions being asked specifically pertaining to the practices whilst working with machines and equipment.
Q3. Materials. The properties of materials remain a cause of concern, whereby the learners either do not have the opportunity to physically experiment or just do not have any practicals at their various institutions. This question was poorly answered.
Question 4. This question was an average one and was answered fairly well.
Question 5. Although the average in this question is above 40% most of the learners showed a lack of knowledge or exposure with the application of various tools.

Question 6. The learners did poorly in this question and misunderstand the concepts of calculations, thereby using wrong applications. The indexing remains problematic if you do not have a milling machine at your disposal and will always just be imaginary.
Q7. This question could be misleading in terms of how the learners responded to the question. Most of the learners could not relate to the hardness testers and the methods of testing the hardness of the materials.
Q8. This question was fairly well answered and the learners who did poorly were as a result of interpreting the angles and co-ordinates as well as the signs of the values of the forces.
Q.9. This question is similar to question 3, whereby the learners cannot differentiate between the properties and uses of the materials, resulting in poor performance.
Q.10 Most of the learners failed to understand the helix angle in this question resulting into a ripple effect when the formula is not known.
Q.11 The calculations in this question was poorly answered again, because the learners do not apply the correct formula.

<b>(b) Why the question was poorly answered? Also, provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.</b>
3) Heat treatment (Annealing, tempering and hardening). The learners were not prepared in line with the way in which the questions were asked.
5.3) The learners are not exposed to the use of centre gauge in grinding or setting up threading tool.
6.2) The learners do not know how to utilize the indexing plate to determine the number of holes and hole cycle because there are no dividing heads in Science.
6.3.2 & 6.3.3) The learners were intermixing the formula. They were using the wrong formula for the wrong question.
6.4) The learners had a poor understanding of how to critically analyse the diagram properly and calculate.
9.5.1) The learners misunderstood the properties of the PVC with the uses of the PVC.
9.5.2) The learners misunderstood the properties of carbon fibre with the uses of carbon fibre.
10) The learners failed to calculate the helix analyse correctly which eventually affected the processes and answers negatively.
11.3) The symbol requested by the examiner is not in the textbook.
11.5) The learners were having problems of the use of the correct application of the formula and correct conversion of units.

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

Teachers need to emphasize the terminology and accuracy of answers in the mathematical questions throughout the year in terms of units and rounding off in the calculations.

The entire curriculum needs to be covered and extensive revision need to take place with the help of past exam question papers, with similar content for example the calculations where the learners loose most of their marks, not entering the units for the questions provided.

The integration of technology in teaching and learning could be accomplished by using You tube videos on the practical components where the teacher cannot fully explain or breaking down the concepts to the learners.

Industry tours should be arranged for the holistic development of the learners, which will give them a better understanding of the world of work.

The teachers should properly conduct the practical tasks so that they can complement the theory taught in class.

Collaboration among subject teachers and subject advisers in supporting the teachers with no or little knowledge of practical expertise.

The cognitive development has to be addressed by the teachers as they integrate the subject terminology in the various chapters.

<b>(d) Describe any other specific observations relating to responses of learners and comments that are useful to teachers, subject advisors, teacher development etc.</b>
Calculations in mechanical technology remains a stumbling block and learners need to embrace the mathematical concepts early in the FET phase. This will result in better overall pass percentages for the subject.
Conversions is part of the knowledge that need to be practiced on a daily basis.
Most of the learners are caught with the simple measurements given in millimetres, if the requirement in the solution is meters.
The screw cutting centre gauge must be taught practically and tools and equipment should be available for usage.