INTRODUCTION TO

EKPC POWER PRODUCTION

SELECTION TEST BATTERY

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Introduction: The selection test battery was designed and validated to aid in the selection of qualified candidates for EKPC power plant job classifications. There are up to seven paper-and-pencil tests in the battery depending upon the posted power plant job classification. No prior knowledge of power plant jobs is required to pass the test battery. The tests are designed to assess abilities or aptitudes required to readily learn critical job requirements and perform successfully on the job. EKPC job classifications covered by the test include Plant Operator, Mechanic, Electrician, Computer & Instrument Technician, Lab Technician, Material Handling Operator, and Combustion Turbine Technician.

Test-Taking Strategy: Each test in the battery is timed. The entire administration session lasts approximately 2 to 2½ hours. It is important to understand that it is not necessary to complete every item in a test in order to pass the test. Passing scores on the tests were previously determined based upon average scores obtained by incumbents in the actual jobs. Therefore, do not attempt to speed through the test in order to answer every item. You should balance both speed and accuracy. Work through each test answering the items in sequence. Do not spend an excessive amount of time focusing on one item but move onto the next one if you are having difficulty determining the correct answer. Remember that both speed and accuracy are important so do not dwell on an item. You can return to the item later if you have time.

You may want to brush up on certain topics covered in the tests such as mechanical concepts beforehand. There are on-line resources where you can find overviews of these topics. Your library can also help. Some resources provide practice exercises which can help you prepare for the test on topics such as reading comprehension. Also, make sure to get a good night's rest before the test. Additional suggestions regarding test preparation and completion are provided on page 10.

Test Examples: The tests are listed beginning on the next page. There is a description of the ability covered by each test as well as sample test items.

READING COMPREHENSION

Industrial Reading Test – This 40-minute test assesses the ability to quickly read, understand, and interpret written material. The examinee reads passages and answers questions that follow. An example of this test is:

Read the Sample Passage below. Then read the first question and choose the best answer. Do the same with the second question.

Sample Passage

Metals play a very important role in modern industry. However, pure metals are rarely used. Instead, different metals are mixed together to form combinations called alloys. For example, brass is a combination of copper and either zinc or tin, and "German silver" is a combination of copper, zinc, and nickel. Alloys are generally harder than the individual metals which compose them and poorer conductors of heat and electricity than pure metals. For example, brass is a poor conductor of electricity and copper is one of the best.

X. Alloys are best described as
- A. one metal combined with a small amount of another metal.
- B. two metals mixed together in equal amounts.
- C. two or more metals mixed together in unequal amounts.
- D. two or more metals mixed together.

Y. Compared to the pure metals which compose them, alloys are
- A. better conductors of electricity.
- B. poorer conductors of heat.
- C. generally softer.
- D. less important in industrial use.

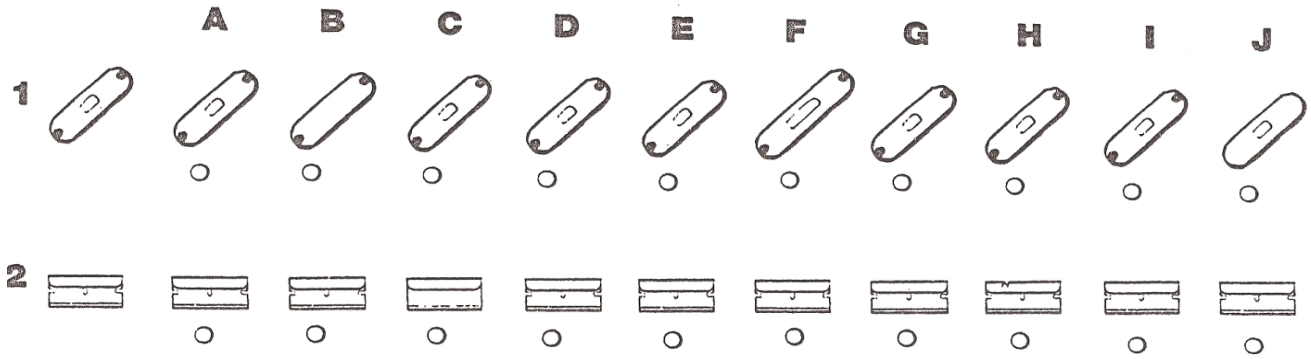
You should have selected answers D and B.

ATTENTION TO DETAIL – Two tests measure the ability to pay careful visual attention to the details of a job or situation. For example, visual scanning is required for the detection of problems or abnormalities in a power plant. The tests include the following:

Attention to Detail Test – This 5-minute test assesses the ability to see differences in small details in figures. Examinees identify flaws in parts that are supposed to be the same as a referent part. However, some are imperfect. Below are two sample items:

On the following pages you will see items consisting of a series of parts. The parts in each series are supposed to be the same, but some are imperfect and have flaws. You are to find the ones that are faulty. The first item in each series is the perfect sample of the part you are to inspect. Examine the first part and then look carefully at the other parts in the series to find the ones that are faulty. Mark your answers by completely filling in the circle beneath the imperfect parts.

Below are sample items. Examine the first part in the series and mark the imperfect parts.



In sample item 1, B is missing the rectangular hole, F is stretched out, and J is missing the two round holes.
In sample item 2, C is missing grooves, and H is cracked.

REASONING AND TROUBLESHOOTING - Reasoning involves analytically examining the available information and making sound conclusions regarding likely problems or next steps. Reasoning includes troubleshooting and identifying the causes of malfunctions in a power plant. Scores are combined on two 5-minute tests to form a composite.

Verbal Reasoning Test: measures the ability to identify relationships and arrive at supportable conclusions. Examinees are required to read a set of facts and determine whether certain conclusions are supported by the facts. An example of the Verbal Reasoning test is shown below:

Directions

Look at the sample problem below. First read the list of facts. After you have read all the facts, look at each conclusion. From the facts, you can tell that some of the conclusions are definitely true and some are definitely false, but in some cases you just cannot tell from the facts whether the conclusion is either true or false. If you decide a conclusion is definitely true, mark the "T" circle. If it is definitely false, mark the "F" circle. If the facts do not give enough information to tell whether a conclusion is definitely true or definitely false, mark the "X" circle.

In the example below, the facts say that Chris is a welder, and that Company B employs no welders Chris could not work for Company B because it does not hire welders. Therefore, the first conclusion is definitely true, and the "T" circle has been marked. The facts also say that Chris' only child is a girl, which means that her son could not be ill since she has no son. Therefore, the second conclusion is definitely false, and the "F" circle has been marked. From the facts that are given, there is not enough information to know definitely where Chris works. Chris does not work for Company B because that company hires no welders. It is possible that she works for Company C, but it is also possible that she works somewhere else. Therefore, the third conclusion is uncertain, and the "X" circle has been marked.

Now mark each of the two remaining conclusions. "T" for true, "F" for false, and "X" for uncertain.

FACTS	CONCLUSIONS	
Chris is a welder	**1.** ● Ⓕ Ⓧ	Chris does not work for Company B
Terry works for Company B	**2.** Ⓣ ● Ⓧ	Chris' son is ill
Chris' only child is a girl	**3.** Ⓣ Ⓕ ●	Chris works for Company C
Company A makes automotive parts	**4.** Ⓣ Ⓕ Ⓧ	Terry is a welder
Company B employs no welders	**5.** Ⓣ Ⓕ Ⓧ	Chris welds automotive parts

You should have marked "F" and "X" for the fourth and fifth conclusions.

Numerical Reasoning Test: measures the ability to determine relationships of patterns in a series of numbers. Examinees read series of numbers and identify the next one in a sequence. An example of the Numerical Reasoning test is shown below:

Directions

Look at the sample problems below. Each series of numbers is followed by a question mark where the next number of the series should be. There are patterns in the series. Your task is to look in the answer columns to the right of the question mark and find a number which will continue the series. Indicate your answer by making a heavy mark in the circle in front of the proper number.

In the first sample problem (1, 4, 7, 10, 13, 16, 19, ?) each number is 3 more than the preceding number. Therefore, the next number should be 3 more than 19. 19 plus 3 is 22. Therefore, the circle in front of 22 has been marked.

Now look at the four remaining sample problems. Find the pattern in each series, decide what number should come next, and mark it in the answer columns. Work these problems now.

1.	1	4	7	10	13	16	19	?	○ 20	○ 21	● 22	○ 23	○ 24
2.	20	18	16	14	12	10	8	?	○ 7	○ 6	○ 5	○ 4	○ 3
3.	20	20	19	19	18	18	17	?	○ 17	○ 16	○ 15	○ 14	○ 13
4.	4	6	5	7	6	8	7	?	○ 6	○ 7	○ 8	○ 9	○ 10
5.	2	4	6	8	11	13	15	?	○ 14	○ 15	○ 16	○ 17	○ 9

You should have marked 6. 17. 9. and 17.

Visual Speed and Accuracy Test – This 5-minute test requires persons to determine similarities or differences in pairs of numbers. It provides an indication of visual discrimination among similar objects. Examples are provided below.

Look at the pairs of numbers below. The first pair of numbers, 792 and 792, are exactly alike. Therefore, the circle to the right with the letter **S (same)** has been filled in. The second pair of numbers, 6122 and 6123, are not exactly the same. Therefore, the circle with the letter **D (different)** has been filled in. The next pair, $898 and $898, are marked to show that they are the same. The fourth pair, 72.10 and 72,10, are marked as different because one has a period in it while the other has a comma.

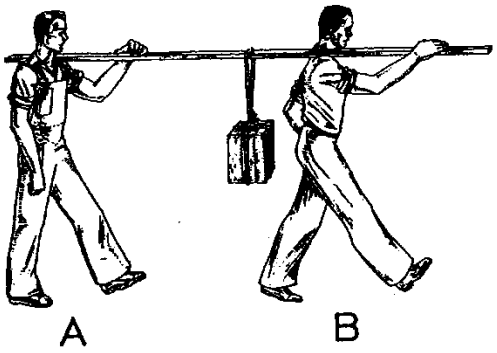
Now mark the next four items for practice.

792	792	● Ⓓ
6123	6122	Ⓢ ●
$898	$898	● Ⓓ
72.10	72,10	Ⓢ ●
33333	33323	Ⓢ Ⓓ
117!	117!	Ⓢ Ⓓ
42	24	Ⓢ Ⓓ
6696	6696	Ⓢ Ⓓ

You should have marked them **D, S, D,** and **S**.

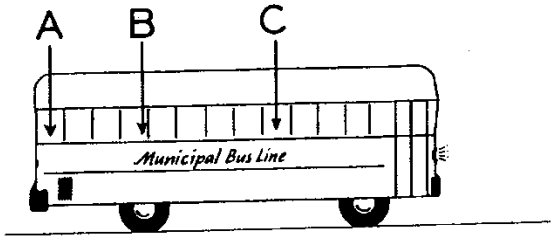
MECHANICAL CONCEPTS

HST Mechanical Aptitude Test – This 25-minute test assesses basic comprehension of mechanical principles such as leverage, rotation, momentum, and flow. Respondents are provided with paired pictures or diagrams of possible mechanical relationships and are asked to identify the correct alternative. An example of the Mechanical Aptitude Test is shown below:



X

Which man carries more weight? (If equal, mark C.)



Y

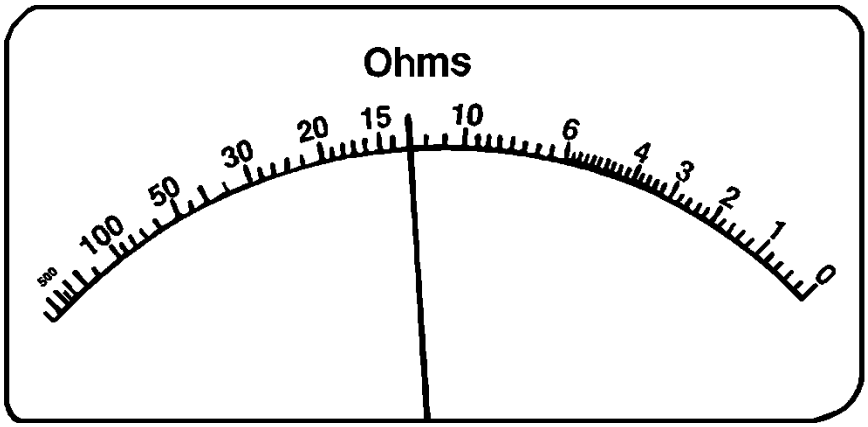
Which letter shows the seat where a passenger will get the smoothest ride?

The correct answers are B for Question X, and C for Question Y.

ELECTRICAL APTITUDE

Electrical Aptitude Test – This 30-minute test assesses your aptitude or "feel" for the electrical relationships presented, rather than your actual knowledge of electrical principles such as current and resistance, reading meters, and interpreting diagrams and schematics. No previous electrical knowledge is required.

Below is a sample meter question. You are asked to precisely read the value indicated on the meter.



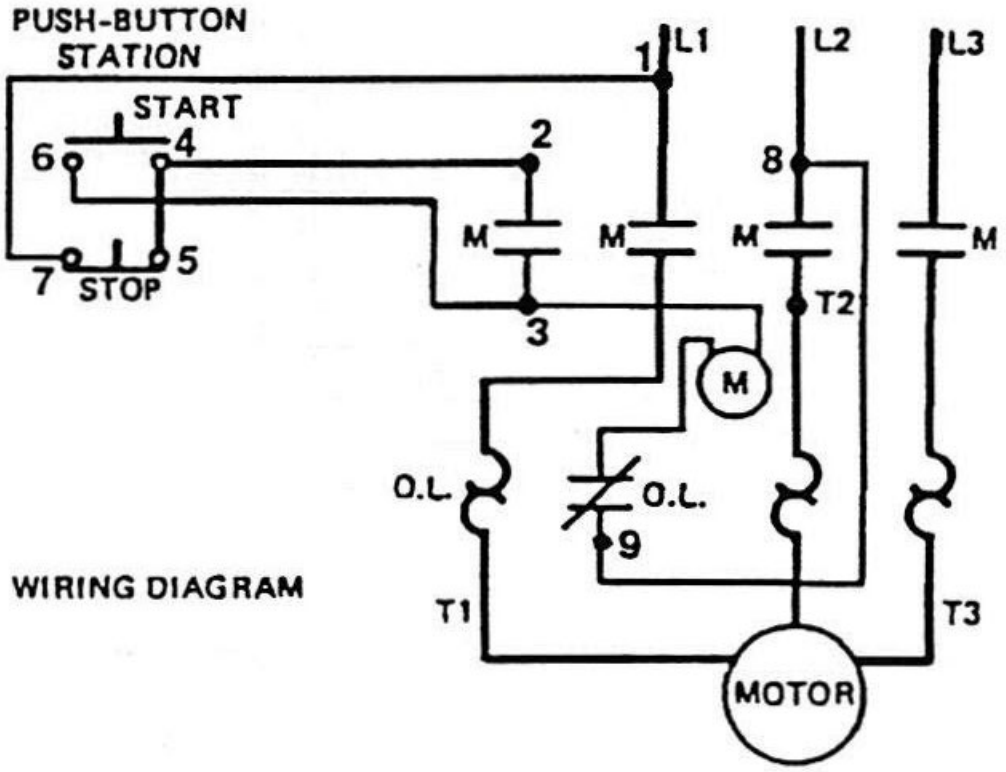
Example a) What numerical value is indicated above?

A. 13
B. 75
C. 65
D. 80

A is the correct response.

WIRING DIAGRAMS

Below are sample wiring diagram questions. You are given a point on the diagram and are asked to find the connecting point (or points).



WIRING DIAGRAM

Example a) In the above diagram, point "3" is directly connected to which of the following points?

A. 4
B. 6
C. 1
D. 7

B is the appropriate response.

Example b) In the above diagram, point "1" is interconnected to which of the following points?

A. 4 & 5
B. 6 & 3
C. 8 & 9
D. 4 & 9

A is the appropriate response.

Strategies to Prepare for and Take the Test

The EKPC test you will be taking is designed to measure your job-related aptitude. Unfortunately, tests may also measure your reaction to stress. Test-taking anxiety, fatigue, and poor vision may influence a test score. The following suggestions provide guidance for helping to ensure that you are able to do as well as you can on the test.

Prior to the Test

1. Practice taking multiple-choice tests. References are available on-line and in libraries with exercises on tested areas like reading comprehension, mechanical ability and visual attention to detail.
2. Keep in mind that the test measures ability and not knowledge. You are not evaluated on what you know about the job.
3. Get a good night's rest and plenty of exercise before the test session.
4. Remember to eat, but limit caffeine and chocolate or any sugary substances.
5. Understand that test-taking anxiety is a natural occurrence and work on establishing self-confidence. Keep in mind that you are more than one test. Put things in perspective. Don't let this test define you. Remind yourself of previous successes.
6. Get involved in some activity not related to the test beforehand in order to take your mind off the test and reduce stress.
7. Avoid people or situations which may make you tense or nervous.
8. Allow time to arrive at the test session well in advance.
9. Remember reading glasses if you use them.
10. When arriving at the session, try to avoid talking with others. Their anxieties may affect you.
11. Choose a seat in an area with few distractions.
12. Visualize completing the test successfully.

During the Test

1. Read each question carefully, but do not get stuck and dwell on any one item. Remember that the tests are timed. Both speed and accuracy are important. Come back later to any items you omitted and provide the best answer.
2. Narrow down your choices for an item as much as possible and then select one option.
3. Do not worry about running out of time. Thinking of time may distract you and make you more anxious. You can pass the test without completing all of the items.
4. If you become too anxious, stop for a moment. Close your eyes, and breathe deeply to relax.