

BHEL Engineer Trainees ET Question Paper with answer 2010

Selection Process

Selection process will consist of Written Test and Personal Interview.

All eligible candidates will be invited for written test at their own expense. The Written Test papers will be objective type in nature and will be bilingual i.e. in Hindi & English. Thereafter, the candidates will be called for personal interview in the ratio of 1:3 to the no. of vacancies in order of merit of Written Test Marks.

For applying the above ratio, initially, all UR candidates of each discipline of Engineering, alongwith such reserved category candidates of that discipline, who do not avail any relaxation, are to be grouped together and then arranged in descending order of written test marks and candidates shall be called for interview in the ratio of 1: 3 in UR category.

After this, candidates belonging to OBC/SC/ST categories, who are not shortlisted for interview as UR, shall be regrouped with their respective categories for further consideration and candidates will be called for interview in the prescribed ratio.

Later on, at the time of final selection, the same exercise is to be carried out for all those reserved category candidates considered so far under UR category.

Tentative date of Written Test: 31-October-2010 .

Following is the list of Written Test centres. However, BHEL reserves the right to add, change or delete any of the below mentioned Test Centres, at its discretion:

Bangaluru
Bhopal
Chandigarh
Chennai
Delhi
Haridwar
Hyderabad

Kanpur
Kolkata
Mumbai
Nagpur
Tiruchirappalli
Varanasi
Vishakhapatnam

Candidates will have to choose one of the Written Test Centre. The Management reserves the right to change the test centre of the candidate, depending on the no. of candidates.

Written Test Details

About the Written Test

1. Written test will consist of 240 multiple choice objective type questions. Test is designed to assess the candidate's Professional (Technical) Knowledge of the chosen Engineering Discipline and Higher Aptitude covering areas like Quantitative Aptitude, Reasoning Ability, Logical thinking, English usage, General Awareness etc.

1. Your performance in this written test will determine possibility of further considerations of your candidature.

3. There is a specific time limit for Written Test. Candidate will have to answer 240 questions in 2 hours and 30 minutes.

4. For each question, a choice of few alternative answers have been given, out of which only one alternative is correct. You have to choose the alternative, you think to be correct and indicate your choice on the OMR answer sheet.

5. Your admission to this Test is, however, provisional. The candidates are advised to ensure while applying that they fulfill the eligibility criteria and other requirements and that the particulars furnished by them are correct in all respects for the post applied for. Mere appearance at the Test does not entail you to make any claim for the post. You will be treated as debarred ab-initio in case you do not fulfill the essential eligibility criteria.

6. The Answer Sheet is a special OMR (Optical Mark Reader) sheet.

7. Use BLACK or BLUE Ball point Pen ONLY.

8. Every question will carry 1 mark. Negative marking to the extent of 0.2 marks per wrong answer will be applicable.

9.a) For answering the Test questions, there will be CIRCLES in the Answer Sheet. The chosen answer is to be indicated by darkening (encoding) one of the CIRCLES fully. Any other method of answering will be taken as incorrect answer.

For Example, If $10x+6=106$, then $15x-10$ will be

(1) 100 (2)140 (3)110 (4)80 (5) None of the above

Since correct answer is option (2), the CIRCLE 2 will have to be darkened (encoded) to fill the space completely like this:

The following are not correct methods of marking:

b) Darken only in the CIRCLES provided. Please do not make any stray marks on the answer sheet. This will be penalised.

c) Rough work must not be done on the Answer sheet. This will be penalised. You can use the Test Booklet for this purpose.

d) Change / Cutting / Overwriting / Erasing of CIRCLES is NOT permitted.

SAMPLE TEST QUESTION

1. APTITUDE TEST

Directions: In the following question, pick the choice whose meaning is opposite to the word shown in capitals.

1.HOI POLLOI:

(1) Cannibalism (2) Tyranny (3) The past (4) Aristocracy (5) Capitalist

Directions: In the following question, the descriptive sentence is aptly described by just one word. Select the choice which give the meaning most appropriately:

2.One who talks in his sleep:

(1) Somniloquist (2) Somnivolicalist (3) Somnambulist (4) Somnalesist (5) None of these

Directions: In each question below you will find three words. The first two words are related to each other in some way. The third word is also related in the same way to one of the four alternatives marked as: (1), (2), (3) and (4). Find it out.

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3.REMAIN : STAY LEAVE: ?

(1) Good-bye (2) Run (3) Farewell (4) Depart

4.POET : VERSE SCULPTOR : ?

(1) Artist (2) Chisel (3) Statue (4) Marble

Directions: In each question below you will find words, four of which are alike in some respect; they have something in common and belong to one category. Only one word is different from them; it does not belong to the category to which the other four belong. Which word is different from the rest?

5.(1) Foot ball (2) Cricket (3) Polo (4) Chess (5) Hockey

6.(1) Eye (2) Nose (3) Tongue (4) Finger (5) Liver

7.In a code where a numeral represents an alphabet the most likely code for the word RECESS is:

(1) 913155 (2) 723245 (3) 865277 (4) 233300 (5) 983499

8.If in a code a,b,c, means 'try your best', b,o,p,o means 'try again & again' x,y,a means 'all the best' - Then 'your best again' is represented by

(1) c a o (2) p o c (3) a c p (4) y c a (5) o c y

Directions: In the following question complete the given series

9.48,24,72,36,108,

(1) 110 (2)115 (3) 64 (4) 54 (5) 125

10.Of the following numbers which one is the greatest?

(1) $(0.6 \times 0.6) - 12$ (2) 0.004×100 (3) $(-0.7)^4$ (4) 0.2×0.2

11.Which of the following numbers is least?

(1) $(\frac{1}{4})^2$ (2) 49 (3) 4-9 (4) 42

12.It costs Rs.4.25 for two adults and their child to attend the Circus. If the child's ticket is half the price of adult's ticket, what is the price of an adult's ticket?

(1) Rs.0.75 (2)Rs. 1.70 (3) Rs.1.75 (4) Rs.1.44

13.If 'a' is less than 50 and 'b' is less than 25, it follows that:

(1) $a=2b$ (2) 'a' is greater than b (3) $a+b$ is less than 75 (4) $a-b=25$ (5) None of these

2A. TECHNICAL TEST (for Engineer Trainees)

PART 1 - GENERAL

1.A series combination of Resistance and Capacitor is put across a Thyristor to protect it from:

1) High Currents (2) High voltage (3) High rate of change of voltage (4) High rate of change of current(5) Thermal run away

2.A Babbitt is:

(1) An eutectic of iron and iron phosphide
(2) A gadget of measuring volume
(3) Antimony bearing lead or tin alloy
(4) A measure of magnetic induction produced in a material
(5) None of these above

3.An Induction motor is:

(1) Self-starting with zero torque (2) Self-starting with very high torque
(3) Self-starting with smaller torque than the rated torque (4) None of the above

PART II - SPECIALISED FIELDS

ELECTRICAL ENGINEERING

1.The transformer capacity is 200 KVA, percentage impedance is 4% and tolerance impedance is 10%. The short circuit current in KA is:

(1) 0.39 (2) 8.21 (3) 8210 (4) 82100 (5) 0.821

2.A 20 KVA transformer was found to have 600 W Iron losses and 700 W Copper losses, when supplying full load at 0.8 power factor. The efficiency of the transformer on full load is:

(1) 92.5% (2) 91.2% (3) 100% (4) 98.2% (5) None of these

3.A water heater holds 20 litres of water. An electric immersion heater which will raise the temperature of the water from 10 degree C to 88 degree C in 55 minutes and efficiency of 85%. The rating in KW is

(1)7685000 (2)2330 (3)2.33 (4) 23.3 (5) None of these

ELECTRONICS ENGINEERING

1.A 10 Kw transistor is modulated to 80%. The average side band power will be:

(1) 1.8 KW (2) 8 KW (3) 3.2 KW (4) 4.6 KW (5) 4.26 KW

2.A resonant circuit has the resonance frequency 1 MHz and quality factor, Q, 100. Its 3-db band width is:

(1) 10 KHz (2) 5 KHz (3) 100 KHz (4) 20 KHz (5) None of these

MECHANICAL ENGINEERING

1.The inlet valve of a four stroke cycle I.C. engine remains open for nearly:

(1) 180o (2) 125o (3) 235o (4) 200o (5) 275o

2.Diesel cycle efficiency is maximum when the cut off is:

(1) Increased (2) Decreased (3) Maximum (4) Minimum (5) Zero

ANSWER KEY

1. APTITUDE TEST

1.(4) 2. (1) 3.(4) 4.(3) 5.(4) 6.(5) 7.(1) 8. (1) 9.(4) 10.(1) 11.(3) 12.(2) 13.(3)

2A. TECHNICAL TEST - PART I - GENERAL

1(3) 2.(3) 3.(3)

PART II - SPECIALISED FIELDS

1.ELECTRICAL ENGG. 1. (2) 2. (1) 3.(3)

2.ELECTRONICS ENGG. 1. (3) 2. (1)

3.MECHANICAL ENGG. 1. (3) 2. (5)

The tests have been designed to determine whether you have a sound knowledge of your subject. You

are, therefore, advised to revise all the sections of your course syllabus in order to prepare adequately for the test.