

# QUESTION BOOKLET AND ANSWER KEY FOR RECRUITMENT TEST OF

<b>Production Manager (Kapurthala Plant)</b>	<b>Code-C-13</b>
<b>Production Manager (Khanna Plant)</b>	<b>Code-C-16</b>

**HELD ON 18 & 19 Feb. 2012**

English Version

1. ਮਲਵਈ ਕੀ ਹੈ ?  
(A) ਭਾਸ਼ਾ (B) ਇਲਾਕਾ (C) ਉਪ-ਭਾਸ਼ਾ (D) ਵਿਆਕਰਣ
2. ਉਹ ਸ਼ਬਦ ਜੋ ਵਾਕ ਦੇ ਨਾਵਾਂ ਤੇ ਪੜਨਾਵਾਂ ਦਾ ਇੱਕ ਦੂਜੇ ਨਾਲ ਤੇ ਹੋਰਨਾਂ ਸ਼ਬਦਾਂ ਨਾਲ ਸੰਬੰਧ ਜੋੜਨ, ਨੂੰ ਕਿਹਾ ਜਾਂਦਾ ਹੈ:  
(A) ਸੰਬੰਧਕ (B) ਯੋਜਕ (C) ਕਿਰਿਆ (D) ਵਿਸ਼ੇਸ਼ਣ
3. ਯੋਜਕ ਦੇ ਮੁੱਖ ਭੇਦ ਕਿੰਨੇ ਹੁੰਦੇ ਹਨ ?  
(A) ਦਸ (B) ਅੱਠ (C) ਛੇ (D) ਦੋ
4. ਹੇਠ ਲਿਖਿਆਂ ਵਿੱਚੋਂ ਸ਼ੁੱਧ ਸ਼ਬਦ ਚੁਣੋ :  
(A) ਕਹਿੜਾ (B) ਕਿਹੜਾ (C) ਕੇਹੜਾ (D) ਕੇੜਾ
5. ਕਿਹੜਾ ਸ਼ਬਦ ਜੋੜ ਸ਼ੁੱਧ ਹੈ:  
(A) ਸਸਤ੍ਰ (B) ਸਸਤਰ (C) ਛਸਤ੍ਰ (D) ਛਛਤਰ
6. 'ਇਹ ਸਭ ਮੰਨਦੇ ਹਨ ਕਿ ਪਰਮਾਤਮਾ ਸਰਬ ਵਿਆਪਕ ਹੈ' । ਕਿਹੜਾ ਵਾਕ ਹੈ  
(A) ਸੰਯੁਕਤ (B) ਪ੍ਰਸ਼ਨ ਵਾਚਕ (C) ਸਿਸ਼ਰਤ (D) ਨਾਂਗਮੁਖੀ
7. ਵਿਸ਼ੇਸ਼ਣ ਕਿੰਨੀ ਪ੍ਰਕਾਰ ਦੇ ਹੁੰਦੇ ਹਨ :  
(A) ਦੋ (B) ਚਾਰ (C) ਛੇ (D) ਪੰਜ
8. ਉਤਮ ਪੁਰਖ ਚੁਣੋ :  
(A) ਮੈਂ/ ਅਸੀਂ (B) ਤੂੰ/ ਤੁਸੀਂ (C) ਉਹ (D) ਆਹ
9. ਅਨਿਸਚਿਤ ਪੜਨਾਵ ਚੁਣੋ :  
(A) ਕਈ/ਕੁਝ (B) ਉਹ (C) ਮੈਂ (D) ਤੁਸੀਂ
10. ' ਝਾੜੂ ਫੇਰਨਾ' ਮੁਹਾਵਰੇ ਦਾ ਕੀ ਅਰਥ ਹੈ :  
(A) ਸਫਾਈ ਕਰਨੀ (B) ਤਬਾਹ ਕਰਨਾ  
(C) ਝਾੜੂ ਨਾਲ ਮਾਰਨਾ (D) ਬੁਹਾਰੀ ਦੇਣੀ

Directions (Q. 11- 14):- Choose the opposite of the given word:-

Q. 11. Deferential:-

- (A) gloomy (B) arrogant (C) respectful (D) different

Q.12. Corroborate :-

- (A) deteriorate (B) contradict (C) accuse (D) slander

Q.13. Burgeon:-

- (A) shrink (B) eclipse (C) explode (D) accelerate

Q.14. Arid:-

- (A) fertile (B) silly (C) equivocal (D) dry

**Directions (Q.15-17) :-** In these questions, sentences are given with blanks to be filled in with appropriate and suitable word(s). Four alternatives are given. Choose the correct alternative out of four and select your answer.

**Q.15 Sachin is satisfied \_\_\_\_\_ his performance.**

- (A) with (B) about (C) for (D) of

**Q.16. Most of the deprived in India lead a miserable existence that has nothing to sing and dance \_\_\_\_\_.**

- (A) upon (B) within (C) about (D) under.

**Q.17. Shivanand accused him \_\_\_\_\_ murder.**

- (A) with (B) about (C) of (D) for.

**Directions (Q.18-20) :-** In these questions, four alternatives are given for the underlined idiom/ phrase . Choose the alternative which best expresses the meaning of the underlined idiom/ phrase.

**Q. 18. He stirred up a hornet's nest when he advocated the widow-remarriage.**

- (A) thrilled the people (B) cautioned the people  
(C) frightened the people (D) excited the hostility of a large number of people

**Q.19. She is working against time.**

- (A) feeling dejected (B) protesting against the times  
(C) working haphazardly (D) working with utmost speed.

**20. I threatened to show him up if he did not mend his ways.**

- (A) to disclose his villainy (B) to get him punished  
(C) to slander him (D) to humiliate him.

**21. On which date Delhi was declared capital of India?**

- A) Dec. 10, 1911 B) Dec. 11, 1911 C) Dec. 12, 1911 D) Dec. 13, 1911

**22. What is the normal playing time of full version of our National Anthem?**

- A) 2 minutes B) 52 Seconds C) 58 Seconds D) 50 Seconds

**23. The decimal currency system started in India from**

- A) April 1957 B) April 1956 C) April 1958 D) April 1960

**24. India's First atomic power station was set up at**

- A) Surat (Gujarat) B) Trombay (Maharashtra)  
C) Sholapur (Maharashtra) D) Tarapur (Maharashtra)

**25. As a non-member who can participate in the proceedings of either House of Parliament?**

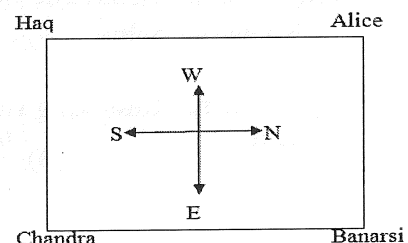
- A) Vice-President B) Chief Justice C) Attorney-General D) None of these

**26. Partition of Bengal was undertaken with a view to**

- A) Suppressing the revolt  
B) Satisfying the Hindus and Muslims  
C) meeting the demand of Muslims  
D) Dividing the Hindus of West and East Bengal and increasing Hindu-Muslim tension

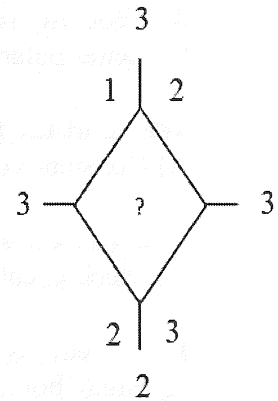
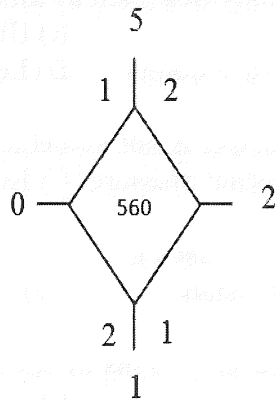
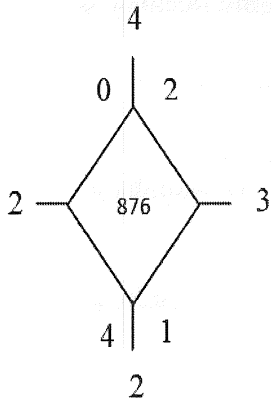
27. The Governor-General of India who initiated the introduction of English in India was  
A) Lord Curzon      B) Lord Macaulay      C) Lord Bentinck      D) Lord Dalhousie
28. Which of the following glands secretes tears?  
A) Lachrymal      B) Pituitary      C) Thyroid      D) Pancreas
29. Flower colours are due to  
A) Chlorophyll      B) anthocyanins      C) phytochromes      D) melanin
30. Which gas leaked in Bhopal gas tragedy?  
A) Carbon monoxide      B) Methyl isocyanate  
C) Ethyl cyanide      D) Phenyl isocyanate
31. The sky is blue in colour due to  
A) refraction      B) reflection      C) diffraction      D) dispersion
32. Who among the following is associated with the invention of computers?  
A) Edison      B) Babbage      C) MacMillan      D) Ranga Bhashyam
33. The ancient book that deals with paediatrics is  
A) Kasyapa Samhita      B) Atharveda  
C) Charaka Samhita      D) Susruta Samhita
34. Laser is an acronym for Light Amplification by  
A) stimulated emission of Radio Waves      B) stimulated emission of Radiation  
C) spontaneous emission of Radio Waves      D) spontaneous emission of Radiation
35. 'A Half Nelson' is the term associated with which of the following sports?  
A) Wrestling      B) Bridge      C) Golf      D) Polo
36. Who was the first Chairman of SAARC?  
A) Mr. Ziaur Rehman      B) Lt. Gen H.M. Ershad  
C) King Birendra      D) Mrs. Indira Gandhi
37. Why did Pakistan leave Common Wealth in 1971?  
A) due to Russian interference in Afghanistan      B) due to Indo-Pak war  
C) due to recognition of Bangladesh      D) none of these
38. The difference in the time per degree longitude between any two places on the globe is  
A) 4 minutes      B) 5 minutes      C) 15 minutes      D) 30 minutes
39. What is the approximate length of border that India shares with Pakistan?  
A) 2700 kms      B) 3000 kms      C) 3300 kms      D) 3600 kms
40. The historic 'Khidrane dee dhab' is now known as  
A) Anandpur Sahib      B) Fatehpur Sahib      C) Mukatsar Sahib      D) Taran Taran Sahib
41. Which of the following rational numbers has a terminating decimal expansion?  
A)  $\frac{1129}{2^{275}}$       B)  $\frac{606}{105}$       C)  $\frac{71}{210}$       D)  $\frac{5}{512}$

42. The symbol  $\pi$ , used to compute area of the circle, has value  
 A) more than  $22/7$     B) less than  $22/7$     C)  $22/7$     D) 3.14
43. If  $HCF(306, 657) = 9$ , then  $LCM(306, 657)$  is equal to  
 A) 59131    B) 22338    C) 27545    D) none of these
44. The zeros of the polynomial  $p(x) = x^3 - 3x^2 + x + 1$  are  
 A)  $1 - \sqrt{2}, 2 + \sqrt{2}, 1$     B)  $2 - \sqrt{2}, 2 + \sqrt{2}, 1$   
 C)  $1 - \sqrt{2}, 1 + \sqrt{2}, 1$     D)  $-\sqrt{2}, \sqrt{2}, 1$
45. The lines  $2x + 3y - 9 = 0$  and  $4x + 6y - 18 = 0$  have  
 A) Unique solution    B) Finitely many solutions    C) No solution    D) Infinite solution
46. The values of  $p$  for which the equations  $4x + py + 8 = 0$  and  $2x + 2y + 2 = 0$  have unique solution are  
 A) 4, 5, 6    B) 3, 4, 5    C) any value except 4    D) no such value exist
47. Altitude of a right triangle is 7 cm less than its base. If the hypotenuse is 13 cm then other two sides are  
 A) 12, 5    B) -12, 5    C) 5, -12    D) none of these
48. Which of the following is an AP?  
 A) -1, 3, -5, 7, ...    B)  $\sqrt{2}, \sqrt{8}, \sqrt{18}, \sqrt{32}, \dots$   
 C) -2, 2, -2, 2, -2, ...    D) 1, 1, 2, 2, 3, 3, ...
49. How many two-digit numbers are divisible by 3?  
 A) 66    B) 65    C) 60    D) none of these
50. The Sup.  $\{\sin x + \cos x\}$  is equal to.  
 A)  $\sqrt{2}$     B) 1    C) 2    D)  $\frac{1}{\sqrt{2}}$
51. Name a single letter which when replaced by another letter in the following words form entirely new words. Express the answer as a fraction with the existing letter as its Numerator and the required letter as its Denominator  
 i) Basic    ii) Black    iii) Back    iv) Brick    v) Stick  
 A) W/C    B) B/N    C) C/N    D) A/N
52. RESCUE is coded as 324152 and PUT is coded as 657, then what will be 623421572 stand for?  
 A) PROSECUTE    B) PERSECUTE    C) PERSUADE    D) PROSTITUTE
53. Miss Alice, Mr. Banarsi, Miss Chandra and Mr. Huq are standing at the four corners of a square field given below. If Alice and Chandra exchange their places, Banarsi and Huq exchange their positions. After that they move along the sides in the clockwise direction and each other half the side. Which of the following statements is correct?  
 A) Alice is to the North-West of Banarsi  
 B) Banarsi is to the North-West of Chandra  
 C) Chandra is to the North of Alice  
 D) Alice is to the North of Chandra



54. 36 vehicles are parked in a parking lot in a single row. After the first car, there is one scooter. After the second car there are two scooters. After third car, there are 3 scooters and so on. Find the number of scooters in the second half of row.  
 A) 10                      B) 12                      C) 15                      D) 17

55. Which one number can be replaced for sign of interrogation?



- A) 689                      B) 966                      C) 869                      D) 968

56. Find the odd one

- A) day                      B) fortnight                      C) calendar                      D) month

57. Pointing to a photograph, a woman says, "This man's son's sister is my mother-in-law". How is the woman's husband related to the man in the photograph?

- A) grandson                      B) son                      C) son-in-law                      D) nephew

58. Study the following information to answer the question below

i) A, B, C, D, E, F and G are playing cards sitting around a circular table

ii) D is not neighbour of C or E

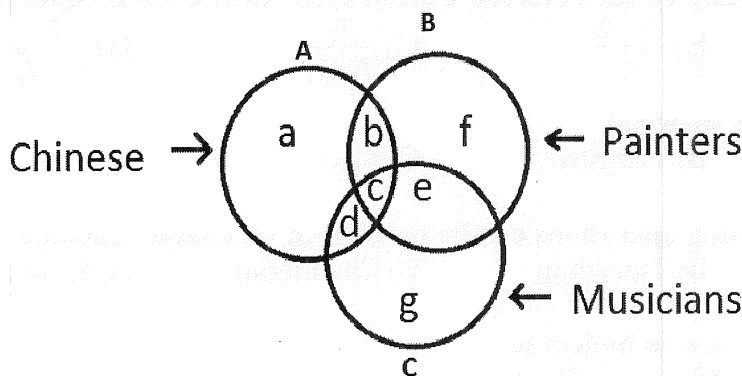
iii) A is neighbour B and C

iv) G who is second to the left of D, is the neighbour of E and F

Which of the following statements is wrong

- A) A is to the immediate right of B                      B) B is to the immediate left of D  
 C) F is between G and D                      D) E is between G and C

59. In the following figure, three intersecting circles represent certain section of people. Different regions are marked from 'a' to 'g'



Find Chinese who are painters as well as musicians

- A) a                      B) b                      C) c                      D) d

60. Ram is 15<sup>th</sup> from the front in a column of boys. There were thrice as many behind him as there were in front. How many boys are there between Ram and the 7<sup>th</sup> boy from the end of the column  
 A) 33                                      B) 34                                      C) 35                                      D) none of these
61. Automobile engines are usually designed as multi-cylinder engine because of  
 A) Economy reasons                                      B) Higher efficiency  
 C) Better balance, uniform torque output                                      D) Lower fuel consumption
62. Which of the following processes is not associated with diesel cycle  
 A) Constant volume    B) Constant pressure    C) Isothermal                                      D) Adiabatic
63. In hydraulic system, the power used is  
 A) Mechanical                                      B) Hydrostatic                                      C) Electrical                                      D) Frictional
64. In I.C. engines, the power developed inside the cylinder is called  
 A) Break horse power                                      B) Indicated horse power  
 C) Pumping power                                      D) None of these
65. Which type of maintenance is most expensive  
 A) Routine maintenance                                      B) Preventive maintenance  
 C) Breakdown maintenance                                      D) Planned maintenance
66. The petrol engine works on  
 A) Diesel cycle                                      B) Brayton cycle                                      C) Ericsson cycle                                      D) Otto cycle
67. A one ton refrigerating machine means  
 A) One ton is the total weight of machine  
 B) One ton refrigerant is used  
 C) One ton of water can be converted into ice  
 D) One ton of ice when melts from 0<sup>0</sup>C in 24 hours, the refrigeration effect is equivalent to 3000 Kcal/hour.
68. The function of heat exchanger is  
 A) To remove the moisture                                      B) To lower down the head pressure  
 C) To increase the refrigerating effect                                      D) To avoid short cycling
69. The T<sub>1</sub> and T<sub>2</sub> are the highest and lowest absolute temperatures encountered in a heat pump operating on the reversed Carnot cycle, then COP is equal to  
 A)  $\frac{T_1 - T_2}{T_1}$                                       B)  $\frac{T_1 - T_2}{T_2}$                                       C)  $\frac{T_2}{T_1 - T_2}$                                       D)  $\frac{T_1}{T_1 - T_2}$
70. Identify the ferrous material  
 A) Copper                                      B) Tungsten                                      C) Steel                                      D) Tin
71. Which of the following operations can be performed on a lathe machine  
 A) Drilling                                      B) Threading                                      C) Chamfering                                      D) All of the above
72. The economizer is used in boilers to  
 A) Increase thermal efficiency of boiler                                      B) Economize on fuel  
 C) Increase flue gas temperature                                      D) To heat feed water by bled steam
73. Rotary compressors are suitable for  
 A) Large discharge at high pressure                                      B) Low discharge at high pressure  
 C) Low discharge at low pressure                                      D) There is no such limitation

74. **Mechanical efficiency of a gas turbine as compared to I.C. engine is**  
 A) Higher                      B) Lower                      C) Same                      D) Unpredictable
75. **The flow in which conditions do not change with time at any point is called**  
 A) One dimensional flow                      B) Uniform flow  
 C) Steady flow                      D) Turbulent flow
76. **The units of young's modulus is**  
 A) mm/mm                      B) Kg/cm                      C) Kg                      D) Kg/cm<sup>2</sup>
77. **A universal joint is an example of**  
 A) Higher pair                      B) Lower pair                      C) Rolling pair                      D) Sliding pair
78. **In a machining operation, doubling the cutting speed reduces the tool life to 1/8 of the original value. The exponent n in Taylor**  
 A) 1/8                      B) 1/4                      C) 1/3                      D) 1/2
79. **Choose the brittle material**  
 A) Mild steel                      B) Cast Iron                      C) Aluminum                      D) Copper
80. **Hook's law is obeyed upto**  
 A) Yield point                      B) Ultimate point  
 C) Breaking point                      D) Limit of proportionality
81. **100 kmol of pure ethane is burned with 200 kmol of air. The percent excess air supplied is:**  
 A) 40%                      B) 20%                      C) 60%                      D) insufficient data
82. **An ideal liquid solution in equilibrium with an ideal vapour phase obey's**  
 A) Amagat's law                      B) Dalton's law                      C) Raoult's law                      D) Charle's law
83. **Latent heat of saturated Steam:**  
 A) Increase with the increase in pressure                      B) decrease with the increase in pressure  
 C) does not change with the pressure                      D) is not related to pressure
84. **For a system in equilibrium at a given temperature and pressure:**  
 A) the entropy must be a minimum  
 B) the enthalpy must be a minimum  
 C) The internal energy must be a minimum  
 D) The Gibbs-Free energy must be a minimum
85. **A polytropic process is described by:**  
 A)  $PV = \text{constant}$                       B)  $PV^\gamma = \text{constant}$   
 C)  $PV^n = \text{constant}$                       D) None of these
86. **A partial molar property ( $\bar{J}$ ) in defined as**  
 A)  $\left(\frac{\partial J}{\partial n_i}\right)_{V,P,n_j}$                       B)  $\left(\frac{\partial J}{\partial n_i}\right)_{T,P,n_j}$                       C)  $\left(\frac{\partial J}{\partial n_i}\right)_{T,n_j}$  D)  $\left(\frac{\partial J}{\partial n_i}\right)_{V,n_j}$
87. **A closed loop system is stable when the gain margin is**  
 A) > 1                      B) < 1                      C) = 1                      D) = zero



88. When the damping coefficient is unity the system is:  
A) Overdamped B) Critically damped C) Underdamped D) Highly fluctuating
89. The capital cost of a project is related to capacity by the equation  $C_2 = C_1 (S_2/S_1)^n$  where  $C_2$  is capital cost with capacity  $S_2$  and  $C_1$  is capital cost with capacity  $S_1$ . For rough estimate of capital cost, the value of  $n$  is  
A) 0.8 B) 0.4 C) 0.6 D) 0.9
90. Heat transfer coefficient in convective heat transfer outside a tube  
A)  $\alpha V^{0.67}$  B)  $\alpha 1/V$  C)  $\alpha V^{0.8}$  D)  $\alpha 1/V^{0.8}$
91. The equation of a q line for a vapour feed at it's dew point is  
A)  $y=x_f$  B)  $y=x-x_f$  C)  $y=x+x_f$  D) None of these
92. In turbulent flow regime fanning friction factor is represented by  
A)  $16/Re$  B)  $32/Re$  C)  $64/Re$  D) None of the above
93. A positive displacement pump is  
A) A constant pressure, variable capacity machine  
B) A constant capacity, variable pressure machine  
C) A constant capacity, constant pressure machine  
D) A variable capacity, variable pressure machine
94. The conversion for second order, irreversible reaction (constant vol.),  $A \xrightarrow{k} B$ , in batch mode is given by:  
A)  $\frac{C_{A_0}}{1+kC_{A_0}t}$  B)  $\frac{kC_{A_0}t}{1+kC_{A_0}t}$  C)  $\frac{(kC_{A_0}t)^2}{1+kC_{A_0}t}$  D)  $\frac{kC_{A_0}t}{(1+kC_{A_0}t)^{-2}}$
95.  $L/m_G$  ratio used in absorption columns for economical operation is:  
A) 1.0 to 1.5 times the minimum B) 2.0 to 3.0 times the minimum  
C) 3.0 to 4.0 times the minimum D) 1.25 to 2.0 times the minimum
96. Pore diffusion resistance in a catalyst is considered negligible if, Thiele modulus is  
A)  $> 1$  B)  $< 1$  C)  $< 0.5$  D)  $> 0.5$
97. The flow in a real packed bed can be approximated  
A) Plug flow model B) Mixed flow model  
C) Dispersion model D) Tanks-in-series model
98. The aerosols important in air pollution range from:  
A)  $0.01 \mu\text{m}$  to  $100 \mu\text{m}$  B)  $100 \mu\text{m}$  to  $1000 \mu\text{m}$   
C)  $0.001 \mu\text{m}$  to  $0.01 \mu\text{m}$  D)  $< 0.001 \mu\text{m}$
99. For a cylindrical container the minimum surface area to enclose a given volume is obtained when length to diameter ratio is:  
A) 1.0 B) 1.5 C) 2.0 D) 3.0
100. Phase rule is defined as  
A)  $P + F = C + 2$  B)  $P - F = C - 2$   
C)  $P + F = C - 2$  D)  $P - F = C + 2$

KEY C-13/16							
Q.No.	Ans	Q.No.	Ans	Q.No.	Ans	Q.No.	Ans
1	C	26	D	51	C	76	D
2	A	27	C	52	B	77	B
3	D	28	A	53	C	78	C
4	B	29	C	54	C	79	B
5	B	30	B	55	A	80	C
6	C	31	D	56	C	81	B
7	D	32	B	57	A	82	C
8	A	33	A	58	B	83	B
9	A	34	B	59	C	84	A
10	B	35	A	60	C	85	C
11	B	36	B	61	C	86	B
12	B	37	C	62	C	87	A
13	A	38	A	63	B	88	B
14	A	39	C	64	B	89	C
15	A	40	C	65	C	90	C
16	C	41	D	66	D	91	A
17	C	42	B	67	D	92	D
18	D	43	B	68	C	93	B
19	D	44	C	69	D	94	B
20	A	45	D	70	C	95	D
21	C	46	C	71	D	96	C
22	B	47	A	72	A	97	C
23	A	48	B	73	C	98	A
24	D	49	D	74	A	99	A
25	C	50	A	75	C	100	A