

**QUESTION BOOKLET AND ANSWER KEY  
FOR RECRUITMENT TEST OF**

<b>Microbiologist</b>	<b>Code-C-21</b>
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**HELD ON 18 & 19 Feb. 2012**

## ENGLISH VERSION

1. 'ਨੱਕ ਵੱਟਣਾ' ਮੁਹਾਵਰੇ ਦਾ ਕੀ ਅਰਥ ਹੈ :  
 (A) ਨੱਕ ਮਰੋੜਨਾ (B) ਨੱਕ ਭੰਨਣਾ  
 (C) ਕਿਸੇ ਚੀਜ਼ ਨੂੰ ਪਸੰਦ ਨਾ ਕਰਨਾ (D) ਨੱਕ ਫੜਨਾ
2. ਅਕਲਾਂ ਬਾਝੋਂ ..... ਅਖਾਣ ਪੂਰੀ ਕਰੋ :  
 (A) ਸਿਰ ਖਾਲੀ (B) ਖੂਹ ਖਾਲੀ (C) ਖਜ਼ਾਨੇ ਖਾਲੀ (D) ਘਰ ਖਾਲੀ
3. 'ਕੁ' ਅਗੇਤਰ ਲਾਕੇ ਸ਼ਬਦ ਬਣਾਓ :  
 (A) ਕੁਲੱਛਣਾ (B) ਕੁਕੜੀ (C) ਕੁੱਤਾ (D) ਕੁੜੀ
4. ਹੇਠ ਲਿਖਿਆਂ ਵਿਚੋਂ ਸ਼ੁੱਧ ਵਾਕ ਦੀ ਚੋਣ ਕਰੋ :  
 (A) ਉਸ ਦਿੱਲੀ ਜਾਣਾ ਹੈ (B) ਦਰਵਾਜ਼ਾ ਖੜਕਦਾ ਹੈ  
 (C) ਕਾਲਾ ਕੁੱਤਾ ਹੈ (D) ਲੱਛੂ ਉਹ ਹੈ ਖਾਂਦਾ
5. ਨਾਂਵ ਕਿੰਨੇ ਪ੍ਰਕਾਰ ਦੇ ਹੁੰਦੇ ਹਨ :  
 (A) ਸੱਤ (B) ਚਾਰ (C) ਤਿੰਨ (D) ਪੰਜ
6. ਮਾਝੀ ਕਿਸ ਇਲਾਕੇ ਦੀ ਉਪ-ਭਾਸ਼ਾ ਹੈ:  
 (A) ਪਟਿਆਲਾ (B) ਕਪੂਰਥਲਾ (C) ਅਮ੍ਰਿਤਸਰ (D) ਬਠਿੰਡਾ
7. 'ਮਜ਼ਦੂਰਾਂ ਨੂੰ ਸੱਦੇ, ਤਾਂ ਜੋ ਇੱਠਾਂ ਚੁਕਾਈਆਂ ਜਾਣ' ਵਾਕ ਕਿਹੜੀ ਕਿਸਮ ਦਾ ਹੈ :  
 (A) ਸਾਧਾਰਨ (B) ਮਿਸ਼ਰਤ (C) ਬਿਨੈਵਾਚਕ (D) ਸੰਯੁਕਤ
8. ਸ਼ੁੱਧ ਸ਼ਬਦ ਜੋੜ ਚੁਣੋ :  
 (A) ਆਵਾਜ਼ (B) ਅਵਾਜ਼ (C) ਅਵਾਜ਼ (D) ਵਾਜ਼
9. ਲਿੰਗ ਅਨੁਸਾਰ ਪੰਜਾਬੀ ਸ਼ਬਦ ਦੇ ਕਿੰਨੇ ਭੇਦ ਹੁੰਦੇ ਹਨ :  
 (A) ਇੱਕ (B) ਚਾਰ (C) ਪੰਜ (D) ਦੋ
10. ਨਿਸਚੇਵਾਚਕ ਪੜਨਾਂਵ ਚੁਣੋ :  
 (A) ਆਹ/ਉਹ (B) ਅਸੀਂ (C) ਤੁਸੀਂ (D) ਮੈਂ

**Directions : (Q 11-14):-** Mark the correct preposition, out of the four choices given below, which may be used in filling the gaps:-

**Q.11** Surrender who murdered a woman.....cold blood was arrested yesterday.

- (A) with (B) in (C) at (D) upon

**Q.12.** India is beset.....problems.

- (A) of (B) with (C) off (D) upon

Q.13. I am suspicious ..... his intentions.  
 (A) upon (B) of (C) to (D) off

Q. 14. The robbers barged ..... a dilapidated building last night.  
 (A) into (B) to (C) of (D) at

**Directions : (Q. 15-17):-** Choose the correct synonym of the given word.

Q.15. Covert :-  
 (A) clear (B) intense (C) secret (D) open

Q.16. Feint:-  
 (A) faint (B) deception (C) to reconstruct (D) to praise somebody

Q.17. Interment :-  
 (A) a funeral (B) to be mad or crazy about something  
 (C) to be full of pride (D) to be shy.

**Directions: Q.18-20:-** Choose the correct form of the phrasal verb in the given sentences.

Q.18. The organizers are laying \_\_\_ refreshments after the performance.  
 (A) on (B) with (C) by (D) at

Q.19. Let us put the matter \_\_\_ the Principal.  
 (A). with (B) to (C) by (D) on

Q.20 I can't make \_\_\_ why he likes Sachin so much.  
 (A) with (B) about (C) out (D) off

21. Which country is the largest producer of maize?  
 A) Canada B) China C) India D) USA

22. While traveling from Fazilka to Patiala, the shortest route will pass through:  
 A) Moga B) Fatehgarh Sahib C) Mansa D) Barnala

23. Who built the Shahpur Kandi Fort?  
 A) Ala Singh B) Bhao Singh C) Saif Khan D) Shah Jahan

24. Which of the following scheme was launched in 2005 with a 7 year scheme/yojana/mission period?  
 A) Jawaharlal Nehru National Urban Renewal Mission  
 B) National Urban Housing and Habitat Policy  
 C) Rajiv Awas Yojana  
 D) Valmiki Ambedkar Awas Yojana

25. Who bagged Sahitya Akademi Award for 'Sunehray'?  
 A) Amrita Pritam B) Bhai Vir Singh C) Gurdial Singh D) Mohan Singh

26. When did India and Pakistan sign the 'Agreement on the Prohibition of Attack against Nuclear Installations and Facilities'?  
 A) January 27, 1978 B) December 31, 1988  
 C) January 27, 1991 D) December 31, 1998

27. In 1970, which award was conferred on Norman Borlaug who had developed semi-dwarf, high-yield, disease-resistant wheat varieties?  
A) Nobel Peace Prize  
B) Nobel Prize in Physics  
C) Nobel Prize in Chemistry  
D) Nobel Prize in Physiology or Medicine
28. Who presides over the joint sitting of the Lok Sabha and the Rajya Sabha?  
A) The Speaker of the Lok Sabha  
B) The President of India  
C) The Chairman of the Rajya Sabha  
D) The Prime Minister of India
29. Where is National Institute of Immunology situated?  
A) Chandigarh  
B) Hyderabad  
C) New Delhi  
D) Pune
30. About what percent of 'Forest Cover' of Punjab is under 'Very Dense Forest'?  
A) 0%  
B) 3%  
C) 6%  
D) 10%
31. Who were the two leading 20th century British architects to lay the foundation of New Delhi?  
A) Albert Mayer and Edwin Lutyens  
B) Edwin Lutyens and Herbert Baker  
C) Herbert Baker and Matthew Nowicki  
D) Matthew Nowicki and Albert Mayer
32. Where is Shamsi airbase situated?  
A) Afghanistan  
B) Andhra Pradesh  
C) Arunachal Pradesh  
D) Balochistan
33. When did the Kyoto Protocol enter into force?  
A) 5 June 1992  
B) 16 February 2005  
C) 11 December 1997  
D) 16 July 2007
34. India's Republic Day coincides with:  
A) Australia Day  
B) Canada Day  
C) South Korea's Independence Day  
D) Sri Lanka's Independence Day
35. The Thein Dam is on the river:  
A) Ravi  
B) Beas  
C) Sutlej  
D) Jhelum
36. Area-wise which of the following is the largest National Park?  
A) Hemis National Park  
B) Kaziranga National Park  
C) Nanda Devi National Park  
D) Valley of Flowers National Park
37. Name the dance form which is said to be slower and more rhythmic form of Bhangra and features three generations - father, son and grandson - dancing all together.  
A) Gatka  
B) Jhumar  
C) Luddi  
D) Sammi
38. As per provisional estimates what is population density of Punjab and Haryana?  
A) 550 and 573 respectively  
B) 573 and 550 respectively  
C) 877 and 893 respectively  
D) 893 and 877 respectively

39. Match List I (Person) with List II (Country)
- |                   |                |
|-------------------|----------------|
| <b>List I</b>     | <b>List II</b> |
| 1-Leymah Gbowee   | a.Kenya        |
| 2-Tawakkol Karman | b.Liberia      |
| 3-Wangari Maathai | c.Yemen        |
- A) 1-a, 2-b, 3-c      B) 1-b, 2-a, 3-c      C) 1-b, 2-c, 3-a      D) 1-c, 2-a, 3-b
40. Match List I (Person) with List II (Sport)
- |                |                |
|----------------|----------------|
| <b>List I</b>  | <b>List II</b> |
| 1-Arti Pradhan | a-Swimming     |
| 2-Manjit Dua   | b-Table Tennis |
| 3-Rajiv Tomar  | c-Wrestling    |
- A) 1-a, 2-b, 3-c      B) 1-b, 2-a, 3-c      C) 1-a, 2-c, 3-b      D) 1-c, 2-b, 3-a
41. Which of the following rational numbers has a terminating decimal expansion?
- A)  $\frac{29}{2^25^77^5}$       B)  $\frac{16}{15}$       C)  $\frac{39}{210}$       D)  $\frac{75}{512}$
42. A sweet seller has 420 kaju barfis and 130 badam barfis. These are to be stacked separately in such a way that each stack has same number of pieces, and total area of the tray covered by stacks is least. What is the maximum number of barfis in each stack?
- A) 42      B) 10      C) 13      D) none of these
43. The graph of a cubic polynomial intersects x-axis at
- A) at least 3 points      B) at most 3 points      C) 3 points      D) none of these is true
44. The ratio of incomes of two persons is 9 : 7 and the ratio of their expenditures is 4 : 3. If each of them manages to save Rs 20 per month, then their monthly incomes are.
- A) 18, 12      B) 18, 14      C) 180, 140      D) 1800, 1400
45. The lines  $x - 2y = 0$  and  $3x + 4y - 20 = 0$  are
- A) Parallel      B) Coinciding      C) not planar      D) Intersecting
46. If  $p(x) = x^2 - 5x + 6$  and  $q(x) = x^2 + 5x - 14$ . Then HCF of  $p(x)$  and  $q(x)$  is:
- A)  $x + 2$       B)  $x + 4$       C)  $x - 2$       D)  $x - 4$
47. Two consecutive odd positive integers, sum of whose squares is 290, are
- A) 11, 13      B) -11, -13      C) 13, -11      D) none of these
48. The 10<sup>th</sup> term of the AP : 2, 7, 12, ... is
- A) 52      B) 47      C) 42      D) none of these
49. The 11<sup>th</sup> term from the last term of an AP : 10, 7, 4, ..., - 62 is
- A) -35      B) -26      C) -29      D) -32
50. Roots of the quadratic equation  $6x^2 - x - 2 = 0$  are
- A)  $\frac{2}{3}, -\frac{1}{2}$       B)  $\frac{2}{3}, \frac{1}{2}$       C)  $-\frac{2}{3}, -\frac{1}{2}$       D)  $-\frac{2}{3}, \frac{1}{2}$
51. Find the odd one out in the coded series hc, lg, pk, to, xr
- A) lg      B) pk      C) to      D) xr

52. For the coded series: Yvs, uro, mjg, ifc, what could be a part of the series?  
 A) roj                      B) rok                      C) vsp                      D) zvt

53. Find the odd one out . . 21, 29, 31, 41, 53, 61, 67, 71  
 A) 21                      B) 31                      C) 41                      D) 62

54. What should replace X in The following arrangement?

3	4	2
4	2	3
7	6	5
8	X	6

A) 2                      B) 7                      C) 8                      D) 9

55. What per cent is 5 of 15?  
 A)  $5/15 \times 100$                       B)  $5/15$                       C)  $15/5$                       D)  $15/5 \times 100$

56. Following statements have been recorded on relationships: K is brother of J, M is sister of K, P is brother of N, N is daughter of J, S is father of M. T is cousin of S, U is grandson of T. Who is the Uncle of P?  
 A) K                      B) N                      C) S                      D) T

57. Which months' first date will have the same day as that of 1st April?  
 A) June                      B) July                      C) August                      D) September

58. Out of the 375 inhabitants in a village, 217 could speak in Hindi and 158 can not speak in Hindi, If 330 can speak in Punjabi, then how many speak in both Hindi and Punjabi?  
 A) 45                      B) 217                      C) Data inadequate                      D) Data inconsistent

59. In a cricket Test match, while playing against Australia, Sachin scored more runs than Sehwag, Dravid scored more runs than Dhoni, Gautam Gambhir scored more runs than Sachin and Rohit scored more runs than Dhoni. Dravid scored less runs than Sehwag. Who scored the maximum runs in the Test?  
 A) Gautam Gambhir                      B) Rohit                      C) Data in adequate                      D) Data inconsistent

60. There are six rooms, numbered 1, 2,...,6, in an office. Each room is having either a PA or a Steno in such a way that at least one room has a Steno and the rooms having Stenos are consecutively numbered. The total number of ways in which this can be done is:  
 A) 6                      B) 11                      C) 21                      D) 33

61. Which of the following is a quantitative nucleic acid amplification technique  
 A) TaqMan PCR                      B) Nested PCR  
 C) Reverse Transcription – PCR                      D) multiplex PCR

62. What is NOT true about Measles:  
 A) can be prevented through immunization with a live attenuated strain  
 B) causes fetal abnormalities if the mother becomes infected during pregnancy  
 C) is most infectious before the onset of symptoms  
 D) is associated with secondary bacterial infection which is the main cause of mortality

63. **What is wrong? Human immunodeficiency virus-1 (HIV-1):**  
A) is a retrovirus containing RNA  
B) contains *env* gene which encodes the core nucleocapsid polypeptides  
C) causes an increase in CD8 lymphocytes during seroconversion  
D) can be detected in infected individuals by measuring the p24 antigen.
64. **Which is NOT true about *Clostridium tetani*:**  
A) it is a Gram positive bacillus with terminal spore  
B) the symptoms of tetanus are produced by an endotoxin  
C) tetanus antitoxin is ineffective when the toxin enters the nervous tissue  
D) *Clostridium tetani* spores are present in soil and GI tract.
65. **BamHI is a restriction enzyme belonging to the Type**  
A) I                      B) II                      C) III                      D) IV
66. **In the Kauffmann White classification, *Salmonella typhi* O-antigen is of the type**  
A) 2, 12                      B) 9, 12                      C) 6, 8                      D) 3, 10
67. **Which *Clostridium* does not cause gas gangrene**  
A) *C. Perfringens*                      B) *C. Novyi*                      C) *C. septicum*                      D) *C. difficile*
68. **Which of the following does not belong to Enterovirus group**  
A) Poliovirus                      B) Coxsachie virus                      C) Echovirus                      D) Rhinovirus
69. **Dental caries is caused by**  
A) *Bacteroides oralis*                      B) *Staphylococcus aureus*  
C) *Streptococcus mutans*                      D) *Providentia stuartii*
70. **Q fever is caused by**  
A) *Rickettsia prowazekii*                      B) *Coxiella burnetii*  
C) *Streptococcus viridians*                      D) *Corynebacterium diphtheriae*.
71. **Interleukin-1 is produced by**  
A) T cells                      B) B cells                      C) Plasma cells                      D) Macrophages
72. **HTST pasteurization is done at**  
A) 71.6 C / 15 sec                      B) 71.6 C / 30 min  
C) 62.9 C / 15 sec                      D) 62.9 C / 30 min
73. **Rum is made by the fermentation of**  
A) Malted barley                      B) Molasses                      C) Grapes                      D) Fruit Juice
74. **Bioaugmentation for degradation of chlorinated solvents in soils is**  
A) adding useful microbe(s) in soil                      B) adding useful nutrients in soil  
C) using natural soil flora                      D) adding trace elements in soil
75. **What is NOT true about leprosy:**  
A) it is caused by an acid fast bacteria  
B) it causes facial nerve palsy  
C) tuberculoid leprosy occurs in patients with poor cellular immunity  
D) more bacilli are found in the skin of patients with lepromatous leprosy than tuberculoid leprosy.

76. **For the detection of coliforms in potable water, the confirmed test employs**  
 A) MacConkey agar    B) Lactose broth    C) EMB agar    D) Sabourod's agar
77. **Selective media for the isolation of Salmonella from environment DO not contain**  
 A) Brilliant Green    B) Tetrathionate    C) Selenite    D) Benzalkonium chloride
78. **Elephantiasis is caused by**  
 A) *Trypanosome brucei*    B) *Toxoplasma gondii*  
 C) *Trypanosoma cruzi*    D) *Wuchereria bancrofti*
79. **Rubella virus belongs to the family**  
 A) Togaviridae    B) Flaviviridae    C) Rhabdoviridae    D) Bunyaviridae
80. **Which option is false for gene regulation**  
 A) More than 90% of the base sequences in human DNA have not known function  
 B) exons are the part of the gene that code for amino acids found in the final proteins.  
 C) introns usually begin with the nucleotide sequence GT  
 D) splicing cut out the mRNA coded by introns.
81. **The indicator organism for pasteurization is**  
 A) *Rickettsia prowazekii*    B) *Coxiella burnetii*  
 C) *Streptococcus viridians*    D) *Corynebacterium diphtheriae*.
82. **Only archaeobacteria have the following in their cell membrane**  
 A) unsaturated fatty acids    B) saturated fatty acids  
 C) cholesterols    D) Diglycerol Tetraethers
83. **Delayed hypersensitivity to PPD is measured by**  
 A) Dick test    B) Schick test    C) Montoux test    D) HPV test
84. **Cholera toxin consists of**  
 A) 5 A and 1 B chains    B) 1 A and 5 B chains  
 C) 1 A and 1 B chain    D) 5 A and 5 B chains
85. **A polypeptide of 110 kDa will be coded by a gene of the size**  
 A) 0.11 kb    B) 1.1 kb    C) 3.0 kb    D) 1.5 kb
86. **The three sugars used in TSI test are**  
 A) Lactose, Sucrose, Mannitol    B) Lactose, Glucose, Mannitol  
 C) Lactose, Sucrose, Glucose    D) Sucrose, Glucose, Mannitol
87. **Erythrogenic toxin causing scarlet fever is produced by lysogenic strain of**  
 A) *Corynebacterium diphtheria*    B) *Bordetella pertussis*  
 C) *Brucella abortus*    D) *Streptococcus pyogenes*
88. **Thiosulfate citrate bile salt agar is used for the selective cultivation of**  
 A) *Staphylococcus aureus*    B) *Vibrio cholerae*  
 C) *Neisseria gonorrhoeae*    D) *Corynebacterium diphtheriae*
89. **Normal flora of the conjunctiva does not include:**  
 A) Chlamydia    B) *Streptococcus viridens*  
 C) *Streptococcus epidermidis*    D) *Staphylococcus aureus*



90. For recombinant microorganisms, which culturing is NOT preferred  
A) Continuous  
B) Batch  
C) Fixed volume fed batch  
D) Variable volume fed batch
91. Micro-organism that does not cause latent infection is:  
A) *Mycobacterium tuberculosis*  
B) varicella-zoster virus  
C) cytomegalovirus (CMV)  
D) hepatitis A
92. Which of the following cannot be used to identify *Staphylococcus aureus*:  
A) identification of Lancefield groups through serology  
B) phosphatase positivity  
C) coagulase positivity  
D) fermentation of mannitol
93. Which of the following is true about tetanus acquired through traumatic wound:  
A) the diagnosis depends on microbial findings  
B) *Clostridium tetani* travels via the nerves to the anterior horn cells in the spinal cord  
C) the tetanospasmin component of the exotoxin acts on the post-synaptic neurones and prevents impulse transmission.  
D) the patient should be given antitoxin intravenously
94. Which is false? Hepatitis B virus:  
A) is a DNA virus  
B) the presence of e antigen indicates increased infectivity  
C) antibody to surface antigen usually appears within 2 weeks of infection  
D) is a recognized cause of liver cancer
95. Which drug acts by inhibiting cell wall synthesis of bacteria  
A) vancomycin  
B) gentamicin  
C) amphotericin B  
D) erythromycin
96. Which is False? The Mantoux test:  
A) involves injecting PPD (purified protein derivative) intradermally  
B) is more sensitive than the tine test  
C) becomes positive within 3 weeks of acquiring tuberculosis  
D) involves the CD4 cells
97. Which of the following is not attenuated live vaccines:  
A) polio  
B) hepatitis A  
C) yellow fever  
D) measles
98. Which of the following is NOT true about culture media for microbes:  
A) Lowenstein-Jensen is used to isolate mycobacteria  
B) MacConkey agar prevents the growth of Gram negative bacteria  
C) Sabouraud's culture is useful for culturing fungal infection  
D) Thayer-Martin's media is used to isolate gonococcus
99. The bacterium with the smallest genome is  
A) *E. coli*  
B) *H. influenzae*  
C) *Mycoplasma genitalium*  
D) *Methanococcus janaschii*
100. Which of the following staphylococci is not coagulase positive:  
A) *S. aureus*  
B) *S. epidermidis*  
C) *S. intermedius*  
D) *S. hyicus*

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