

भारतीय प्रौद्योगिकी संस्थान रुड़की
Indian Institute of Technology Roorkee

RECRUITMENT EXAMINATION FOR
ASSISTANT SAFETY OFFICER

TIER-I

This booklet consists of 20 pages.

इस पुस्तिका में २० पृष्ठ शामिल हैं।

Maximum Marks: 50

अधिकतम अंक: ५०

Time: 120 Minutes

समय: १२० मिनट

Name of Candidate (CAPITAL LETTERS): _____

अभ्यर्थी का नाम

Roll Number: _____

अनुक्रमांक संख्या

Father's Name: _____

पिता का नाम

Date of Examination: _____

परीक्षा की तिथि

Signature of Candidate

अभ्यर्थी के हस्ताक्षर

Signature of Invigilator

निरीक्षक के हस्ताक्षर

INSTRUCTIONS TO CANDIDATES

1. This question paper has 50 questions. Each question carries one mark. There are four choices for answer (A, B, C, D) to each question. Choose the correct answer (one only) for each question and mark it on the Optical Response Sheet (ORS).
2. Read the instructions given in the ORS carefully.
3. Use a black pen only otherwise, ORS will not be evaluated.
4. Candidate must write Name, Roll No., Date of Examination, Booklet Code and sign on the ORS.
5. The candidate should check that the booklet does not have any unprinted or torn or missing pages or questions etc. If so, get it replaced with another question paper.
6. While marking your answer on the ORS, fully darken the circle. Answer once marked cannot be changed.
7. One (1) mark will be awarded for each correct answer and minus one by three ($-\frac{1}{3}$) mark for each incorrect answer. The unanswered questions will not attract negative marks.
8. Return the ORS to the invigilator after the examination is over.
9. Candidate is allowed to take away question paper after the examination.
10. Mobile and other Electronic Gadgets are prohibited in the examination. Watches of any kind are also not allowed.
11. Use of unfair means in examination will lead to cancellation of candidature.

CORRECT Method of Answering in ORS ORS में उत्तर देने का सही तरीका	WRONG Method of Answering in ORS ORS में उत्तर देने का गलत तरीका
	

उम्मीदवारों के लिए अनुदेश

1. इस प्रश्नपत्र में 50 प्रश्न हैं। प्रत्येक प्रश्न के उत्तर के लिए चार (A, B, C, D) विकल्प हैं। प्रत्येक प्रश्नके लिए सही उत्तर (केवल एक) चुनें और उसे Optical Response Sheet (ORS) शीट पर चिह्नित करें।
2. ORS में दिए गए निर्देशों को ध्यान से पढ़ें।
3. केवल काले पेन का प्रयोग करें, अन्यथा ORS का मूल्यांकन नहीं किया जाएगा।
4. ORS शीट पर अपना नाम, रोल नंबर, परीक्षा की तिथि, पुस्तिका कोड लिखें और हस्ताक्षर करें।
5. उम्मीदवार को यह जांचना चाहिए कि इस पुस्तिका में कोई अमुद्रित या फटे या लापता पृष्ठ या प्रश्न आदि नहीं हैं। यदि ऐसा है, तो इसे एक नये प्रश्न पत्र से बदल लें।
6. ORS पर अपना उत्तर अंकित करते समय उस गोले को पूरी तरह से काला कर दें। एक बार अंकित उत्तर को बदला नहीं जा सकता।
7. प्रत्येक सही उत्तर के लिए एक (1) अंक प्राप्त होगा और प्रत्येक गलत उत्तर के लिए एक बटा तीन ($-\frac{1}{3}$) अंक घटा दिया जाएगा। अनुत्तरित प्रश्न नकारात्मक अंक आकर्षित नहीं करेंगे।
8. परीक्षा समाप्त होने के बाद ORS निरीक्षक को लौटा दें।
9. उम्मीदवार को परीक्षा के बाद प्रश्न पत्र अपने साथ ले जाने की अनुमति है।
10. परीक्षा में मोबाइल और अन्य इलेक्ट्रॉनिक गैजेट्स वर्जित हैं। किसी भी प्रकार की घड़ियों की भी अनुमति नहीं है।
11. परीक्षा में अनुचित साधनों के प्रयोग की स्थिति में उम्मीदवारी रद्द कर दी जाएगी।

(Objective type questions)

(वस्तुनिष्ठ प्रकार के प्रश्न)

Each question carries 1 mark

प्रत्येक प्रश्न के 1 अंक है

Note: Read the passage below and answer question numbers 1 & 2:

Not only does the lack of education among women make the dissemination of nutrition education difficult, it appears also to be a major obstacle to campaigns for family planning. It is significant that one of the more successful family planning efforts has been in Korea, where literacy is over 80 per cent. Thailand, Singapore, Hong Kong and Taiwan have also had more satisfactory results than, for example, Afghanistan, Pakistan, Bangladesh, India or Indonesia, where a large proportion of the female population is illiterate. The education level of women is significant, also because it has a direct impact on their chances of employment; and the number of employed women in a country's total labour force has a direct bearing on both the Gross National Product and the disposable income of the individual family.

1. The passage suggests that Korea has been successful in family planning because Korean women are _____
 - A. well employed
 - B. well educated
 - C. literate enough to understand its significance
 - D. exposed to nutrition education

2. Countries where family planning programmes have been satisfactory are _____
 - A. Thailand, Singapore, Korea, Hong Kong, and India
 - B. Thailand, Afghanistan, Korea, and Pakistan
 - C. Korea and Indonesia
 - D. Taiwan, Hong Kong, Korea, Thailand, and Singapore

3. We couldn't buy anything because _____ of the shops were open.
 - A. all
 - B. no-one
 - C. none
 - D. nothing

4. The man sitting next to me was very nervous. He _____ before.

- A. hasn't flown
- B. don't fly
- C. hadn't flown
- D. wasn't flying

5. If $\cos x = \frac{2}{3}$ then $\tan x$ is equal to

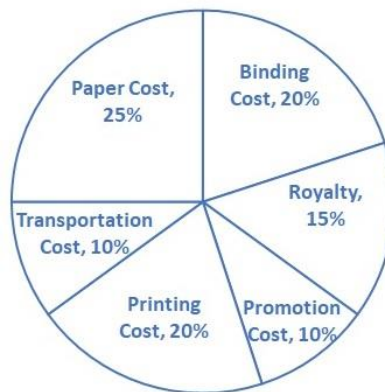
A. $\frac{5}{2}$

B. $\sqrt{\left(\frac{5}{2}\right)}$

C. $\frac{\sqrt{5}}{2}$

D. $\frac{2}{\sqrt{5}}$

6. The following pie-chart shows the percentage distribution of the expenditure incurred in publishing a book. Study the pie-chart and the answer the questions based on it.



If for a certain quantity of books, the publisher has to pay Rs. 30,600 as printing cost, then what will be amount of royalty to be paid for these books?

- A. Rs. 19,450
- B. Rs. 21,200
- C. Rs. 22,950
- D. Rs. 26,150

7. Identify the missing number in the series.
3, 11, 19, 27, _____?
- A. 33
 - B. 35
 - C. 37
 - D. 39
8. A sum of Rs. 20,000 will become Rs. 24,800 in 48 months at some rate of the simple interest. Which of the followings is the correct rate of interest per annum?
- A. 6%
 - B. 5%
 - C. 7%
 - D. 10%
9. In which year, Alexander invaded India?
- A. 326 BC
 - B. 316 BC
 - C. 346 BC
 - D. 256 BC
10. Which among the following can best define the Neolithic Revolution?
- A. Green Revolution
 - B. Technology Revolution
 - C. Milk Revolution
 - D. Agricultural Revolution

11. Who among the following is first Rajiv Gandhi Khel Ratna awardee?
- A. Viswanathan Anand
 - B. Geet Sethi
 - C. Sachin Tendulkar
 - D. Karnam Malleswari
12. Who among the following was the first Speaker of the Lok Sabha?
- A. Ganesh Vasudev Mavalankar
 - B. M.A. Ayyangar
 - C. Sardar Hukam Singh
 - D. N. Sanjiva Reddy
13. Find the missing element in the following series: ACE, _____, MOQ, SUW
- A. GIK
 - B. FHJ
 - C. GIL
 - D. GHJ
14. Look at the series: 7, 10, 8, 11, 9, 12, _____ The missing number is
- A. 7
 - B. 10
 - C. 12
 - D. 13

15. Foresight : Anticipation :: Insomnia : ?

- A. Treatment
- B. Disease
- C. Sleeplessness
- D. Unrest

16. In the context of the given statements, which one of the given options is correct?

Statement I: A huge truck overturned on the middle of the road last night.

Statement II: The police had cordoned entire area in the locality this morning for half of the day.

- A. Statement I is the cause and statement II is its effect.
- B. Statement II is the cause and statement I is its effect.
- C. Both the statements I and II are independent causes.
- D. Both the statements I and II are effects of independent causes.

17. The MS Windows sound file has the extension _____

- A. .wav
- B. .sit
- C. .wpd
- D. .dif

18. What is included in the E-mail address?

- A. Domain name followed by the user's name.
- B. User's name followed by the domain name
- C. User's name followed by the postal address
- D. User's name followed by street address

19. HTML stands for?
- A. HyperText Managerial Language
 - B. HyperText Mailing Language
 - C. HypoText Markup Language
 - D. HyperText Markup Language
20. What is the function of VLOOKUP in MS-Excel worksheet?
- A. Looks for a specified value by searching for it vertically across the sheet.
 - B. Moves cursor in vertically upward direction.
 - C. Reports average value of data from a vertical column in the upward direction.
 - D. Pastes upward directional arrow in the cell.
21. Which of the following examples considering chemical and physical health hazards is/are correct?
- I. Chemical health hazards: Acid burns, asphyxiation, and deafness due to noise
 - II. Physical health hazard: Third-degree burn due to radiation, asphyxiation, and deafness due to noise
 - III. Chemical health hazard: Acid burns, asphyxiation, and dizziness due to toxic gas
 - IV. Physical health hazard: Third-degree burn due to radiation, spinal injury due to fall, and deafness due to noise
 - V. Physical health hazards: Acid burns, asphyxiation, and deafness due to noise
- A. I and II only
 - B. III and IV only
 - C. III and V only
 - D. I and V only

22. Which of the following statements is/are true?
- I. Heat stress causes rise in both the body's core temperature and the heart rate.
 - II. The provision of cold water showers to workers in the blast furnace can reduce the health hazard.
 - III. Health hazards due to poisonous liquid can be prevented if the correct labeling and storage procedures for the chemicals are followed.
- A. III only
- B. II and III only
- C. I, II and III
- D. I and III only
23. Which of the following statements is/are correct regarding the 'work at height'?
- I. 'Three points of contact' rule is always maintaining contact with one hand and two feet or two hands and one foot.
 - II. Safe working load is the maximum safe force that a piece of lifting equipment, or lifting device can exert to lift, suspend, or lower, a given mass without fear of breaking.
 - III. Safe working load is the maximum weight a worker can carry while at a height.
- A. I and III only
- B. I only
- C. I and II only
- D. None of the above
24. Which of the following statements is/are correct?
- I. Stress, tiredness, fear, and illness may lead to unintentional behaviour.
 - II. Misapplication of procedures and regulations is a knowledge based mistake.
 - III. No recognised solution for new situations is rule-based mistake.
- A. I, II and III
- B. I only
- C. I and II only
- D. I and III only

25. Which of the following statements is/are correct regarding the Water (Prevention and Control of Pollution) Act, 1974?

- I. The stream includes river, watercourse, inland water, subterranean waters, sea or tidal waters.
- II. 'Trade effluent' includes any liquid, gaseous, or solid substance that is discharged from any premises used for carrying on any industry, operation, process, or treatment and disposal system.
- III. 'Trade effluent' includes domestic sewage.

- A. I, II and III
- B. I only
- C. I and II only
- D. II and III only

26. Which of the following statements is/are correct regarding Workmen's Compensation Acts, 1923?

- I. Minor means a person who has not attained the age of 18 years.
- II. Seaman means any person forming part of the crew of any ship.
- III. Seaman does not include the master of the ship.

- A. I, II and III
- B. I only
- C. I and II only
- D. III only

27. Which of the following statements is/are NOT correct regarding the Employee's State Insurance Act, 1948?
- I. Confinement means labor resulting in the issue of a living child or labor after twenty-six weeks of pregnancy resulting in the issue of a child whether alive or dead
 - II. Underutilized hospital means any hospital not fully utilized by the persons insured under this Act
 - III. A list of injuries deemed to result in permanent total disablement considers a 100 % loss of earning capacity
- A. I and III only
 - B. I only
 - C. I and II only
 - D. None of the above
28. Which of the following sets of examples of Psychological Hazards is NOT correct?
- A. Effort-reward imbalance and Work-life balance
 - B. Job strain and Conflict or poor workplace relationships
 - C. Work intensification and Lone or remote working
 - D. Discrimination and Electrocution
29. Which of the following options is correct in depicting the hierarchy of controlling hazards considering the effectiveness in descending order?
- A. Elimination, Substitution, Engineering controls, Administrative controls, Personal protective equipment
 - B. Engineering controls, Elimination, Substitution, Administrative controls, Personal protective equipment
 - C. Substitution, Elimination, Engineering controls, Administrative controls, Personal protective equipment
 - D. Administrative controls, Substitution, Elimination, Engineering controls, Personal protective equipment

30. Select the odd one out considering various hazard analysis techniques.
- A. Failure mode and effect analysis
 - B. Fault tree analysis
 - C. Hazard and Operability Analysis
 - D. Accident Pyramid Model
31. The correct sequence of steps in creating a safe work environment is _____
- A. Assessing the risk, Prioritizing hazards, and Identifying potential hazards
 - B. Assessing the risk, Identifying potential hazards, and Prioritizing hazards
 - C. Identifying potential hazards, Prioritizing hazards, and Assessing the risk
 - D. Identifying potential hazards, Assessing the risk, and Prioritizing hazards
32. Select the odd one out considering the control strategies/techniques of hazard identification.
- A. Inspections and audits
 - B. Incident investigation
 - C. Prevention through design
 - D. Employee feedback
33. Which of the following control strategies is associated with Behavior based safety?
- A. Elimination
 - B. Administrative controls
 - C. Substitution
 - D. Engineering controls

34. Which of the following is not a part of the action program by the National policy on safety, health, and environment at workplace
- A. Awareness
 - B. Data collection
 - C. Compliance
 - D. None of the above
35. Under the section of Prohibition of employment of young children specified by 'the Factories Act, 1948', what minimum age of the person (in years) is specified?
- A. 18
 - B. 15
 - C. 14
 - D. 16
36. Which section of 'the Factories Act, 1948' discusses canteens, first-aid appliances, rest rooms, and crèches?
- A. Working hours of adults
 - B. Welfare
 - C. Special Provisions
 - D. None of the above
37. Which of the following statements is NOT correct regarding 'the Air (Prevention and Control of Pollution) Act, 1981'?
- A. No State Board shall be constituted for a Union territory.
 - B. Board means the Central Board or a State Board.
 - C. Member means a member of the Central Board or a State Board, as the case may be, and includes the Chairman thereof.
 - D. A Board shall meet at least once every six months and shall observe rules of procedure regarding to the transaction of business.

38. Any person responsible for importing hazardous chemicals in India shall provide [before 30 days or as reasonably possible but not later than] the date of import to the concerned authorities certain information. Which of the following information is not included in Manufacture Storage and Import of Hazardous Chemical Rules, 1989?
- A. The name and address of the person receiving the consignment in India
 - B. The port of entry in India
 - C. Statement of purpose describing the intended usage
 - D. The quantity of chemical(s) being imported
39. ISO stands for _____
- A. Indian Organization for Standardization
 - B. International Organization for Standardization
 - C. International Society of Occupational Safety
 - D. Indian Society of Occupational Safety
40. Which of the following long forms is NOT correct regarding 'threshold limit value (TLV)?
- A. ADI: acceptable daily intake
 - B. TDI: tolerable daily intake
 - C. NOAEL: no-observed-adverse-effect level
 - D. TLV-TWA: threshold limit value- temperature weighted average
41. The purpose of the local exhaust system is _____
- A. provision of cooling
 - B. removal of contaminants
 - C. provision of oxygen
 - D. All of the above

42. Which of the following statements is NOT correct?
- A. Blue-colored helmets are worn by engineers, supervisors, foremen, and managers.
 - B. Green-colored helmets are usually worn by safety inspectors and new workers.
 - C. Yellow-colored helmets are worn by laborers and earth-moving operators.
 - D. Orange-colored helmets are worn by road crews and visitors.
43. Regarding emergency medical response, CPR and ICS respectively stand for _____
- A. Critical Patient Recovery and Incident Control System
 - B. Cardiac Performance Response and Incident Control System
 - C. Cardiopulmonary Resuscitation and Incident Command System
 - D. Cardiac Performance Response and Incident Command System
44. What is the 'Golden Hour' in the context of emergency medical response?
- A. The first hour after an accident occurs
 - B. The first hour after a patient arrives at the hospital
 - C. The first hour after a patient's vital signs stabilize
 - D. The first hour after an emergency call is made
45. Regarding the evaluation of industrial injuries, 'root cause analysis' constitutes _____
- A. identifying the worker's responsibility
 - B. determining the immediate cause of the injury
 - C. exploring the underlying causes and contributing factors of the injury
 - D. generating incident report

46. The rumble strips are provided on roads to _____
- A. decrease the speed limit
 - B. provide traction in smooth roads
 - C. warn drivers of merging lanes or road shoulders
 - D. make a rumbling sound to wake up the driver
47. What does PASS signify in the context of using a fire extinguisher?
- A. Panic, Alert, Shout, Stop
 - B. Protect, Assist, Save, Secure
 - C. Prevent, Assess, Suppress, Secure
 - D. Pull, Aim, Squeeze, Sweep
48. In 'Contractor Systems Management', the purpose of a performance evaluation is not to _____
- A. determine which subcontractors to avoid in the future
 - B. provide feedback and improve future contractor performance
 - C. assess the success of a contractor
 - D. ensure that all contractual commitments are met
49. Which of the following NFPA codes provides the safeguards to reduce the hazards associated with the storage, handling, and use of flammable and combustible liquids?
- A. NFPA 13
 - B. NFPA 30
 - C. NFPA 70
 - D. NFPA 704

50. 'Fire Triangle', a concept in fire safety consists of _____
- A. the three types of fire extinguishers
 - B. the three main types of fires
 - C. the three elements required for a fire to start and continue
 - D. the three stages of a fire

SPACE FOR ROUGH WORK

SPACE FOR ROUGH WORK

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