



These problems are compounded when someone allowed to use an organization's wireless network adds an unauthorized wireless signal to increase the main network's signal strength. These unauthorized access points are especially vulnerable, often unprotected by any security measures that may exist on the main network. At home, people usually use passwords to protect their wireless network from unauthorized access. But a new study by the A. James Clark School of Engineering's Michel Cukier indicates passwords alone may not provide enough protection for home wireless networks and are particularly inadequate for the wireless networks of larger organizations. Cukier is an assistant professor of mechanical engineering and affiliate of the Clark School's Center for Risk and Reliability and Institute for Systems Research at the University of Maryland.

At many organizations and locations around the country, thousands of users access widespread wireless network legitimately at any given time. But in turn, some of these users set up their own wireless networks, linked to the official network, to increase the signal in their office or home—what computer experts call an unmanaged wireless access point. "If these secondary connections are not secure, they open up the entire network to trouble," Cukier said. "Unsecured wireless access points pose problems for businesses, cities and other organizations that make wireless access available to customers, employees, and residents. Unsecured connections are an open invitation to hackers seeking access to vulnerable computers."

Cukier recommends that wireless network owners and administrators take some precautions to better secure wireless networks from "parasites" trolling for access and unsecured connections set up by legitimate users among which are -

**Limited signal coverage:**

Limit the strength of your wireless network so it cannot be detected outside the bounds of your home or office.

**WPA/WEP encryption:**

Encrypted communication will protect confidential information from being disclosed. If the traffic over the wireless network is encrypted, an attacker must decrypt the password before retrieving information transmitted over the network. There are two encryption schemes available: Wired Equivalent Privacy (WEP) and Wi-Fi Protected Access (WPA). In practice, only one of them can be used at a time. Regular changing of the encryption key may also help to protect the network. Whenever possible, WPA should be used as WEP can be decrypted by hackers equipped with special software.

**Key management** Even if encryption is used, if the key to this encryption (generated by the network) is not changed often, a hacker might crack the key and decrypt the communication. Therefore, the key must be regularly changed.

**6) Identify the INCORRECT statement(s):**

- A) Encrypted communication is insecure because hackers can crack all keys.
- B) Encrypted communication can protect confidential information.
- C) Insecure secondary connections can open up an entire network to hackers.
- D) Secondary networks are also called unmanaged wireless access points.

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**7) Limited signal coverage helps secure wireless networks against pirates because:**

- A) Encryption is not required to secure communication.
- B) The network cannot be detected outside the house/office.
- C) It does not allow unauthorized access points to be set up.
- D) Wireless pirates cannot filch signals from limited signals.

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**8) Security breaches are compounded when:**

- A) Wireless networks do not have limited signal coverage.
- B) Unauthorized access points are used to increase signal strength.
- C) Users set up wireless networks without linking to the official one.
- D) All the options

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**9) How does encryption help in securing confidential information?**

- i) Regularly changed keys prevent hackers from accessing information.
- ii) Hackers have to decrypt passwords before accessing information.
- iii) Parasites cannot access encrypted information over a wireless network.
- iv) Only passwords provide inadequate protection from computer hackers.

- A) i and iii
- B) i, ii, iv
- C) i and ii
- D) i, iii, iv

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**10) What is an unmanaged system access point?**

- A) A network access point which doesn't have password protection
- B) A user's personal wireless network, linked to the official network
- C) An access point created to filch a wireless signal from another point
- D) An array of security breaches in an official wireless network

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**Directions for Questions 11-15:**

Read the passage and answer the questions that follow on the basis of the information provided in the passage.

**From EAI to SOA**

Putting a new site up on the web is a pretty straightforward process. The pages and the transport mechanism must conform to simple standards, and the site must be registered, but once this is done, visitors can find it and use it with ease. They need to know nothing about how the site was built, where the data comes from, or where or how the processing is carried out. The ease of

use of the web - and the explosive surge in Internet use that followed its development - is the blueprint for the service-oriented architecture (SOA), the new paradigm for enterprise software design and integration that is sweeping through the business world. The goal of the SOA is no less ambitious: whenever a business needs to automate a business function or process, it merely plugs into a 'service', just like logging on to a web site. Sometimes that service is an existing application, maybe bespoke, maybe a commercial package; sometimes it is externally operated and accessed over the Internet. To the system accessing the service, it shouldn't matter.

By using this 'loosely coupled' architecture, customers hope to dramatically slash the cost of developing, integrating and maintaining software. How? By re-using services whenever they can, rather than rebuilding or re-engineering them; by making their software accessible through standard interfaces; and by avoiding expensive engineering and project management issues every time an application needs to be replaced, implemented or upgraded. Powerful as all this is, the SOA is about much more. As applications or automated processes are exposed as services, businesses have the opportunity to re-use them as they wish. And that means they can combine anything from a handful to hundreds or even thousands of 'services' into new combinations, or 'composite applications'. That gives organizations the ability to customize their processes, even using packaged applications, as never before. Examples of these more advanced composite applications are still rare, largely because most existing applications have yet to fully opened up, but also because the architectural decisions and platforms need to be put in place. But once this is done, composite applications should prove easier to build than completely new applications, because they use services provided by existing, stable, underlying applications.

They should also address many of the problems encountered when integrating business applications using traditional enterprise application integration (EAI) systems. These systems have often been employed with the goal of creating seamless end-to-end processes, but projects often involve 'hard wiring' that proves expensive and inflexible. The key technological development that has made all this possible is, of course, web services. Web services, while neither entirely new nor as completely functional as some of the hype suggests, is unusual in that, like very few other Internet standards, it has the complete and committed support of every vendor in the IT industry; and second, the standards describe a way for systems to interact that is relatively simple, and non-invasive. But the use of web services does not make an SOA. That is a step further and, while fast emerging, is only now becoming widely understood and implemented.

11) To which of the following do Enterprise Application Integration (EAI) and Service Oriented Architecture (SOA) relate?

- A) Complex Application Network Configurations
- B) Web or Application Development that requires integration with external applications
- C) Application Architecture Re-engineering
- D) Building Composite Applications from scratch

12) Which of the following is NOT the goal of SOA (Service Oriented Architecture)?

- A) Facilitating Application Integration with more ease and flexibility
- B) Reusing external application with loosely coupled architecture
- C) Using Services that are the interfaces exposed to the applications/automated processes
- D) Providing hard wiring between the Applications to be integrated

13) Which of the following is FALSE w.r.t EAI and SOA?

- A) SOA is cheaper to develop than EAI.
- B) EAI manages data whereas SOA manages services.
- C) SOA enforces flexibility and ease of development over EAI.
- D) SOA enforces Standards unlike EAI.

14) "Service" in Service Oriented Architecture (SOA) is:

- A) Web service
- B) Business
- C) Automated Process or Application
- D) Project

15) To implement Service Oriented Architecture (SOA), all the processes are exposed as services that are plugged-in for facilitating workflow and process management. These services can also be implemented in new combinations termed as \_\_\_\_\_ Applications.

- A) Composite
- B) External
- C) Additional
- D) Supporting



**Part – B**

28) A rectangular box whose length is equal to its width contains 24 cubic feet. If the height of the box is 1.5 ft, what is the length of the box?

- A) 3                      B) 4                      C) 6                      D) 8

29) The 4 walls of a room of length 10 feet, breadth 8 feet and height 10 feet need to be painted. On one wall, there is a painting measuring 5ft by 2 ft and the wall behind the painting is not to be painted. What is the cost of painting at Rs.20 per square foot?

- A) Rs. 7000                      B) Rs. 15800  
C) Rs. 16000                      D) Rs. 12600

30) What percentage is  $\frac{2}{3}$ rd of a minute of half an hour?

- A) 22%                      B) 33%  
C) 11%                      D) 66%

31) The number of girls in Bangalore colleges in 1992 was 20,000. It increased by 10% in 1993 and then decreased by 10% in 1994. How many girls were there in Bangalore colleges in 1994?

- A) 20000                      B) 19800  
C) 20100                      D) 19600

32) What is the difference of 5 times 125 and 25% of 5 times of 500?

- A) 0                      B) 25  
C) 100                      D) 200

33) When the price of tea is increased by 20%, 4 kg of tea can be purchased for Rs.120. What is the original price of the tea?

- A) Rs.6.50                      B) Rs.6.00  
C) Rs.7.80                      D) Rs.25.00

34) How many litres of a 10% salt solution must be mixed with 30 litres of a 50% salt solution to have a 20% salt solution?

- A) 75                      B) 45                      C) 90                      D) 60

35) A father is twice as old as his son. 20 years ago he was twelve times as old as his son. What are their present ages?

- A) 32 & 16                      B) 36 & 18  
C) 38 & 19                      D) 22 & 44

36) The ratio of the house-rent to the salary of a man is 1:9. If his salary is Rs.900 per month, what is the house-rent?

- A) Rs.100                      B) Rs.90  
C) Rs.99                      D) None of the options

37) An automobile tyre has two punctures. The first puncture by itself would make the tyre flat in 9 minutes. The second puncture by itself would make the tyre flat in 6 minutes. How long will it take for both punctures together to make the tyre flat? (Assume the air leaks out at a constant rate).

- A)  $3\frac{3}{5}$  minutes                      B) 4 minutes  
C)  $5\frac{1}{4}$  minutes                      D)  $7\frac{1}{2}$  minutes

38) There are two taps, tap A and tap B in a tank. If both taps are opened, the tank is drained in 20 minutes. If tap A is closed and tap B is open, the tank will be drained in 30 minutes. If tap B is closed and tap A is open, how long will it take to drain the tank?

- A) 60 minutes                      B) 10 minutes  
C) 45 minutes                      D) 50 minutes

39) The sum of 9 numbers is 72. Of these, the average of the first five is 8 and that of last five is 9. Find the value of the fifth number?

- A) 10                      B) 8                      C) 12                      D) 13

40) The average of 11 observations of an experiment is 15. It was later discovered that while observing the readings one number, which was 24, was wrongly read as 35. The actual average is

- A) 13                      B) 12                      C) 18                      D) 14

**Analytical and Logical Reasoning**  
**Part - A**

41) In a certain code, SIKKIM is coded as THLJL. How is TRAINING written in that code?

- A) SQBHOHOH                      B) UQBHOHOF  
C) UQBJOHHO                      D) UQBJOHOF

42) If in a certain language, ENTRY is coded as 12345 and STEADY is coded as 931785, then ARREST is coded as:

- A) 744589                              B) 744193  
C) 166479                              D) 745194

**Directions for Questions 43-44:**

In each of the following questions are given set of statements followed by conclusions. You have to take the given statements to be true even if they seem at variance from the commonly known facts. Read the conclusions and then decide which of the given conclusions logically follows from the given statements.

43) **Statements:** Only writers are poor.  
Only poor eat fruits.

- Conclusions:** (i) All writers eat fruits.  
(ii) No writer eats fruit.  
(iii) Some writers eat fruits.  
(iv) All poor eat fruits.

- A) Only (i) follows                      B) Only (ii) and (iv) follows  
C) Only (iii) follows                      D) None of the conclusions follow

44) **Statement:** No magazine is a newspaper.  
No newspaper is a computer.

- Conclusions:** (i) No magazine is a computer.  
(ii) No computer is a magazine.  
(iii) All magazines are computers.  
(iv) All computers are magazines.

- A) Only (i) follows                      B) Only (iii) follows  
C) Only (i) and (ii) follow                      D) None of the options

45) The sum of the geometric progression 1, 4, 9, 16, ..., 144 is

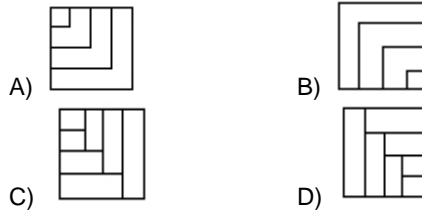
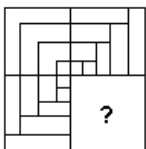
- A) 650                      B) 615                      C) 620                      D) 645

46) What is the next number in the series:

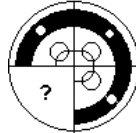
1, 2, 4, 7, 11, 16, \_\_\_

- A) 22                      B) 25                      C) 21                      D) 20

47) Which of the options completes the problem figure?



48) Which of the options completes the problem figure?



**Directions for Questions 49-50:**

Assuming the statement given in each question to be true, choose the inference as one of the following:

- (A) - True                              (B) - False  
(C) - Uncertain                              (D) - None of the options

49) **Statement:** No mammals are animal.  
**Inference:** Some mammals are tigers

- A) A                      B) B                      C) C                      D) D

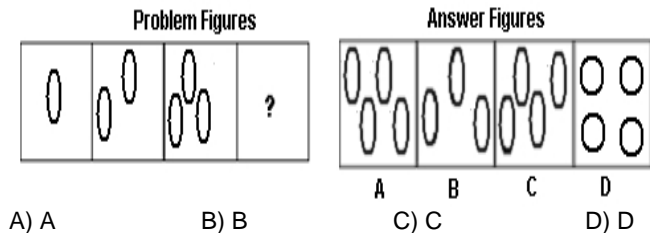
50) **Statement:** Professional education in India is free.  
**Inference:** All Indian citizens will become professionals.

- A) A                      B) B                      C) C                      D) D

**Directions for Questions 51-52:**

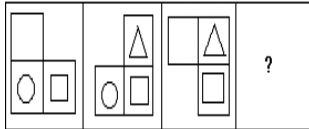
In the following questions, three figures are given, that follow a certain sequence or pattern. Find the next figure in the sequence from the Answer choices provided below.

51)

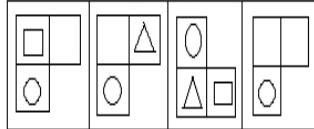


52)

PROBLEM FIGURES



ANSWER FIGURES



A) A

B) B

C) C

D) D

## Part - B

### Directions for Questions 53-56:

Following are the minimum requirements for admission to Little Flower School, Jamshedpur.

- (i) The child must score the cut-off marks in the written examination at the time of admission.
- (ii) The parents must be able to pay Rs.60,000 at the time of admission.
- (iii) The child must not be more than 6 years of age, and not less than 4 years of age as on 01/05/2008 and the child must be physically fit.

- 1. In case the child satisfies all the criteria except (ii), he/she is referred to the Vice-Principal.
- 2. In case the child satisfies all the criteria except (iii), he/she is referred to the Principal.

**53) Roopa is 5 years of age. She cleared the cut-off in the written examination, and is physically fit. But her parents are able to pay only a sum of Rs.40, 000 at the time of the admission.**

**She is:**

- A) Given provisional admission
- B) Referred to the Vice-Principal
- C) Referred to the Principal
- D) Data insufficient

**54) Debajyoti scored exactly the cut-off required to pass the examination. He was born on 23 March 2003. His parents are ready to pay Rs. 60,000 at the time of admission. Even though he was not well on the day of the test, he managed to pass the physical fitness test. He is:**

- A) Directly given admission
- B) Referred to the Vice-Principal
- C) Referred to the Principal
- D) Denied admission

**55) Sunil was the topper in the written test. His date of birth is listed as 22<sup>nd</sup> December 2003. He was not able to pass the physical test. However, his parents are willing to pay Rs.60, 000 or more to get him an admission in the school.**

**He is:**

- A) Given provisional admission
- B) Referred to the Principal
- C) Referred to the Vice-Principal
- D) Denied admission

**56) James scored the cut-off required to pass the written test of the school. His date of birth is 16<sup>th</sup> November 2004. His parents are willing to pay the money required to get him an admission in the school. He passed the physical fitness test at the school quite easily.**

**He is:**

- A) Given provisional admission
- B) Referred to the Principal
- C) Referred to the Vice-Principal
- D) Denied admission

### Directions for Questions 57-60:

ABC Medical College is offering scholarships to doctors interested in pursuing PG degree in Medicine. The following criteria need to be adhered to while making selections:

The applicant must:

- i. Have an MBBS degree from a recognized college with minimum 60% marks
- ii. Have cleared a Medical Aptitude Test (MAT) with a minimum of 90% marks
- iii. Be between 23 and 26 years of age as on 31 January 2004
- iv. Have work experience of at least 2 years in a hospital.

However, if the applicant fulfills all the criteria EXCEPT:

- a. Condition (i), but has secured at least 55% marks in MBBS, and, a diploma in any specialized branches of medicine, refer to the Director
- b. Condition (ii), but has a MD, refer to the Chairman

**57) Siddharth was awarded the best student trophy on completing his MD at the age of 25. He scored 94% in MAT and 72% in MBBS respectively. He has been working in a hospital and also has his own clinic. He is:**

- A) Granted scholarship
- B) Denied scholarship
- C) Referred to the Chairman
- D) Data inadequate

**58) Rajesh secured 68% and 93% in MBBS and MAT respectively. He has been working in the city hospital for the last 3 years. He was born on 20 January 1979. He is:**

- A) Granted scholarship
- B) Denied scholarship
- C) Referred to the Chairman
- D) Referred to the Director

**59) Deven's father is an Ayurvedic Doctor. He completed his MBBS degree with 74% marks in 2000 at the age of 21. He scored 86% marks in MAT. He intends to pursue MD and has been working in a reputed city hospital for the past 3 years. He is:**

- A) Granted scholarship
- B) Denied scholarship
- C) Referred to the Chairman
- D) Referred to the Director

**60) Jatin completed his MBBS with 57% marks. He has worked in a rural hospital for 2 years and 4 months. He scored 93% marks in MAT. He was born on 18 December 1980. He holds a diploma in pediatrics. He is:**

- A) Granted scholarship
- B) Denied scholarship
- C) Referred to the chairman
- D) Referred to the Director