



**Session 3- ICT
02-04-2024**

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KARATHI



“

Everyone who remembers his own education remembers teachers, not methods and techniques. The teacher is the heart of the educational system.

SIDNEY HOOK

Southern Living



Match List I with List II:

List I	List II
(E-initiatives)	(Descriptions)
(a) Vidwan	(i) Repository for full-text thesis, e-books and journals
(b) Digilocker	(ii) Education portal to facilitate learning
(c) Sakshat	(iii) Database of leading scientists researchers
(d) Shodh Ganga	(iv) Platform for issuance and verification of documents and certificates

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Choose the correct answer from the options given below:

- 1.(a)-(i), (b)-(iii), (c)-(iv), (d)-(ii)
- 2.(a)-(iii), (b)-(iv), (c)-(ii), (d)-(i)
- 3.(a)-(iv), (b)-(ii), (c)-(i), (d)-(iii)
- 4.(a)-(ii), (b)-(i), (c)-(iii), (d)-(iv)



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When was Digital India programme started? →

- 1.2013
- 2.2014
- 3.2015
- 4.2016

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Which of the following terms is related to the digital learning environment for design?

- 1.e-Vidwan → databases of Prof
- 2.e-Acharya → integrated content
- 3.e-Kalpa → 3 IDC
- 4.e-Yantra → NID
- Robotics → DDo, IIT Guwahati



Which of the following terms is related to the digital learning environment for design?

- 1.e-Vidwan
- 2.e-Acharya
- 3.e-Kalpa
- 4.e-Yantra

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List I (Digital Initiative s in HE)		List II (Purpose)
A NAD	1	Reduce dependency on proprietary software in educational institutions.
B NDL	2	Learn various free and open-source software all by oneself.
C Spoken Tutorial	3	Issuance, storage, access and verification of Academic of Academic Awards namely degrees, mark-sheets etc.
D FOSSEE	4	framework of virtual repository of learning resources with a single-window search facility.

Match List I with List II
 Choose the correct answer from the options given below:

- 1.A - 3, B - 4, C - 2, D - 1
 2.A - 4, B - 3, C - 1, D - 2
 3.A - 4, B - 3, C - 2, D - 1
 4.A - 2, B - 1, C - 3, D - 4



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List I (Digital Initiative)	List II (Objective)
a) NAD	i) Utilization of satellite communication technologies for transmission of education e-contents through <u>National</u> channels
b) SWAYAM PRABHA	ii) All-digital library that stores information (metadata) about different types of digital contents.
c) NDL	iii) <u>24 × 7</u> online store house of all academic awards viz. <u>certificates, degrees</u> etc.
d) SWAYAM	iv) Offers various online courses for school education and higher education.

1. a-ii, b-i, c-iii, d-iv
2. a-iii, b-i, c-ii, d-iv
3. a-iii, b-iv, c-ii, d-i
4. a-iv, b-i, c-ii, d-iii



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With reference to SWAYAM, which of the statements A-C given below are correct?

- A. The current SWAYAM platform is developed by Ministry of Education and NPTEL, IIT Madras, with the help Google Inc. and Persistent systems Ltd.
- B. It facilitates hosting of all the courses, taught in the classrooms from class 9th till Post Graduation.
- C. Courses and Certificates provided through SWAYAM are available free of cost to the learners.

Choose the correct answer from the options given below

- (a) A and B only
- (b) A and C only
- (c) B and C only
- (d) A, B and C



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- (a) A and B only
- (b) A and C only
- (c) B and C only
- (d) A, B and C



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NPTEL EXAM

Active



99+

Compose

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1

Inbox

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+



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Given below are two statements:

Statement I: SWAYAM initiative is a significant step towards providing financial and technical assistance to young start-up entrepreneurs.

Statement II: The tagline of Digilocker logo says "My Documents, Anytime, Anywhere".

In light of the above statements, choose the most appropriate answer from the options given below:

1. Both Statement I and Statement II are correct.
2. Both Statement I and Statement II are incorrect.
3. Statement I is correct but Statement II is incorrect.
4. Statement I is incorrect but Statement II is correct



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Match List I with List II:

List 1. (Digital Initiative)

A. e-Vidwan

B. e-Kalpa

C. e-Yantra

D. e-Sodh Sindhu

List 2. (Objective)

1. Digital-learning environment for design

2. Subscription-based scholarly information
(e-books and e-journals) at lower rates

3. Expert Database and National Research Network

4. Spread education in Embedded systems and Robotics

Choose the correct answer from the options given below:

1. A-3

B-4

C-1

D-2

2. A-2

B-1

C-4

D-3

~~3. A-3~~

B-1

C-4

D-2

4. A-1

B-3

C-4

D-2



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2. A-2

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C-4

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3. A-3

B-1

C-4

D-2

4. A-1

B-3

C-4

D-2



Identify the correct ascending order of the following numbers under A-D represented in different bases:

- (235) (A) $(11101011)_2$: (Base - 2 binary number)
- (372) (B) $(564)_8$ (Base - 8 Octal number) - 372
- (614) (C) $(614)_{10}$ (Base - 10 decimal number)
- (1161) (D) $(489)_{16}$ (Base - 16 hexadecimal number)

$$\begin{array}{r} 1 \ 1 \ 1 \ 0 \ 1 \ 0 \ 1 \ 1 \\ 2 \ 2 \ 2 \ 2 \ 2 \ 2 \ 2 \ 2 \\ \hline 1 \ 0 \ 1 \ 1 \end{array}$$

$$1 + 2 + 8 + 32 + 64 + 128$$

$$\begin{array}{r} (235) \\ (372) \\ (614) \\ \hline 1 \ 0 \end{array}$$

$$\begin{array}{r} 4 \times 8^0 = 4 \\ 6 \times 8^1 = 48 \\ 5 \times 8^2 = 320 \\ \hline 372 \end{array}$$

Choose the correct answer from the options given below:

1. A,C,D,B
2. D,C, B,A
3. B,C,A,D
4. A,B,C,D

$$\begin{array}{r} (489)_{16} \\ \hline 1 \end{array}$$

$$\begin{array}{r} 9 \times 16^0 = 9 \\ 8 \times 16^1 = 128 \\ 4 \times 16^2 = 256 \\ \hline 4029 \end{array}$$

$$\begin{array}{r} 256 \\ 4 \\ \hline 1024 \\ 9 \end{array}$$



Identify the correct ascending order of the following numbers under A-D represented in different bases:

- (A) $(11101011)_2$: (Base - 2 binary number)
- (B) $(564)_8$ (Base - 8 Octal number)
- (C) $(6\overset{1}{1}4)_{10}$ (Base - 10 decimal number)
- (D) $(489)_{16}$ (Base - 16 hexadecimal number)

Choose the correct answer from the options given below:

1. A,C,D,B
2. D,C, B,A
3. B,C,A,D
4. **A,B,C,D**



What is the binary equivalent of the decimal number 85.125?

1. ~~(1001001.111)~~

3. ~~(1100101.001)~~

2. ~~(1010101.101)~~

4. ~~(1010101.001)~~

$$\begin{array}{r}
 2 | 85 \\
 2 | 42 - 1 \\
 2 | 21 - 0 \\
 2 | 10 - 1 \\
 2 | 5 - 0 \\
 2 | 2 - 1 \\
 \quad\quad\quad 1 - 0
 \end{array}$$

$$\begin{aligned}
 & \cdot 125 \times 2 = 0.250 \\
 & \cdot 250 \times 2 = 0.500 \\
 & \cdot 500 \times 2 = 1.000
 \end{aligned}$$

$$0.5 + 0.125 = 0.625$$

$$\frac{1}{2} \times \frac{1}{2}$$

$$\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$$

$$\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$$

$$\frac{1}{8} \times \frac{1}{2} = \frac{1}{16}$$

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Given below are two statements with refers to number systems

STATEMENT 1 : $(0.6875)_{10} = (0.1011)_2$ ✓ $(0.101)_2$

STATEMENT 2 : $(111011.101)_2 = (58.625)_{10}$

- a) S₁ & S₂ are true
- b) S₁ & S₂ are false
- c) S₁ - T ; S₂ F
- d) S₁ - F S₂ - T

$$\begin{aligned} S_1 \\ 0.6875 \times 2 &= 1.3750 \\ 0.3750 \times 2 &= 0.7500 \\ 0.7500 \times 2 &= 1.5000 \end{aligned}$$

$$0.5000 \times 2 = \underline{\underline{1.0000}}$$

$$\begin{array}{r} S_2 \\ 111011 \\ \times 2^3 \\ \hline 52168 \\ \hline 21 \end{array}$$

(59)



Given below are two statements with refers to number systems

STATEMENT 1 : $(0.5625)_{10} = (0.9)_{16}$ → **True.**

STATEMENT 2 : $(0.3)_{10} = (0.4\overline{BBB})_{16}$ → **False**

- 2) S1 T - True
- 5) S1 S2 False
- C) S1-T - S2-F
- 1) S1 F - S2 -T.

1) Number System

2) Memory Storage

3) Excel

$$\begin{aligned} 0.3 \times 16 &= 4.8 \\ 0.8 \times 16 &= 12.8 \\ 0.8 \times 16 &= 12.8 \end{aligned}$$

$$\begin{array}{r} 16 \\ \underline{\times} 8 \\ 128 \end{array}$$

B A(B)C
10 11 12



Given below are two statements with refers to number systems

STATEMENT 1 : $(\cancel{1}011101)_2 = (5D)_{16}$

STATEMENT 2 : $(C2)_{16} = (\cancel{1}1000010)_2$

a) S1 \wedge S2 - True $\frac{194}{232^2} \frac{2}{2}$

b) S1 \wedge S2 - False $\frac{194}{(8)16}$

c) S1 - T; S2 F

d) S1 - F; S2 - T

$$\begin{array}{rcl} 5D & \rightarrow & 1011101 \\ 13 \times 16^0 : 13 & & 1011101 \\ 52 \times 16^1 = 80 & & 64 1684 \\ (93) & & (93) \end{array}$$

$(C2)_{16}$

$$\begin{array}{rcl} 2 \times 16^0 : 2 \\ 12 \times 16^1 . \frac{192}{192} \\ 192 \end{array}$$

$$\begin{array}{r} 01011101 \\ 5 \quad \cancel{1} \\ 13 \end{array}$$

$(C2)_{16}$

$(5D)$

$$\begin{array}{r} 16 \\ 12 \\ 2 \\ 3 \\ 16 \end{array}$$



Given below are two statements with refers to number systems

STATEMENT 1 : $(499)_{10} = (111110011)_2$

STATEMENT 2 : $(1011101)_2 = (93)_{10}$

STU

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Given below are two statements with refers to number systems

STATEMENT 1 : $(21E)_{16} = (541)_{10}$ \rightarrow False

STATEMENT 2 : $(257)_{10} = (101)_{16}$ \rightarrow True

$$(21E)_{16}$$

$$\hookrightarrow 14 \times 16^0 = 14$$

$$\hookrightarrow 1 \times 16^1 + 14 \times 16^0 = 16 + 14 = 30$$

$$2 \times 16^2 = 512$$

$$\frac{256}{2} \\ \underline{\quad\quad\quad} \\ 512$$

$$\frac{542}{16}$$

$$16 \overline{)257}$$

$$16 \overline{)16 - 16}$$

S1 \rightarrow False
S2 \rightarrow True.



If $(P)_8$ represents the number P in base -8 then $(144)_8 + (175)_8$

- \Rightarrow a) $(25)_8$ b) $(41)_8$ c) $(41)_8$ d) $\overline{(34)}_8$

$$(144)_8$$

$$+ (175)_8$$

144

$$\begin{array}{r} 4 \times 8^0 = 14 \\ 4 \times 8^1 = 32 \\ 1 \times 8^2 = 64 \\ \hline (100)_{10} \end{array}$$

$$\begin{array}{r} 225 \\ 28-1 \\ \hline 3-4 \end{array}$$

175

$$\begin{array}{r} 5 \times 8^0 = 5 \\ 7 \times 8^1 = 56 \\ 1 \times 8^2 = 64 \\ \hline (125)_{10} \end{array}$$

$$(225)_{10} = (341)_8$$



Given below are two statements with refers to number systems

STATEMENT 1 : $(1011101)_2 = (135)_8$

STATEMENT 2 : $(71)_8 = (111001)_2$

7 Problem

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Given below are two statements with refers to number systems

STATEMENT 1 : $(167)_{10} = (101000111)_2$

STATEMENT 2 : $(11010110)_2 = (214)_{10}$

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Given below are two statements with refers to number systems

STATEMENT 1 : $(49)_{10} = (31)_{16} = (00110001)_2$

STATEMENT 2 : $(7B)_{16} = (123)_{10} = (011111011)_2$

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- Given below are two statements with refers to number systems
- Statement I :** $(11001000) = (CB)_{10} = (200)_{10}$
- Statement II :** $(123)_{10} = (01111011)_2 = (7B)_{10}$

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- Given below are two statements with refers to number systems
- Statement I :** $(D6C1)_{10} = (54977)_{10}$
- Statement II :** $(41819)_{10} = (A35B)_{10}$

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Given below are two statements

Statement I: $(4A2F)_{16} = (18991)_{10}$

Statement II: $(6940)_{10} = (1B1C)_{16}$

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