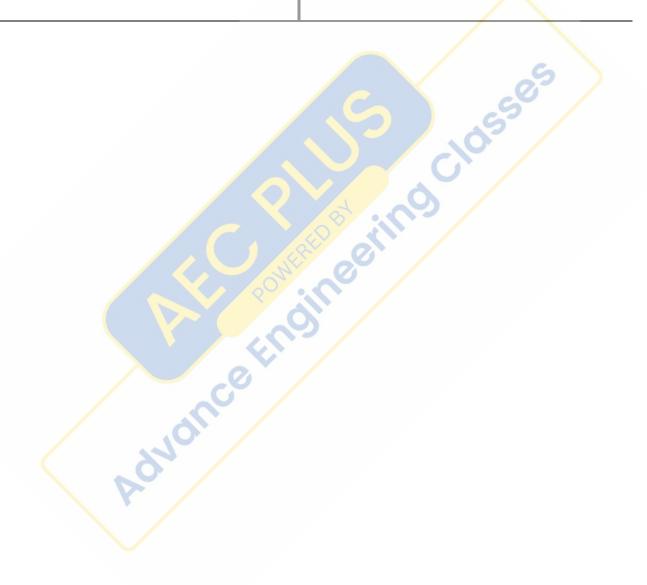
LMRC Junior Engineer

Previous Year Paper (Civil) 28 June 2015



Lucknow Metro Rail Corporation

Participant ID: Participant Name: Test Center Name: Test Date:

Test Time: Subject Name: 28/06/2015 4:00 PM - 5:30 PM Junior Engineer Civil



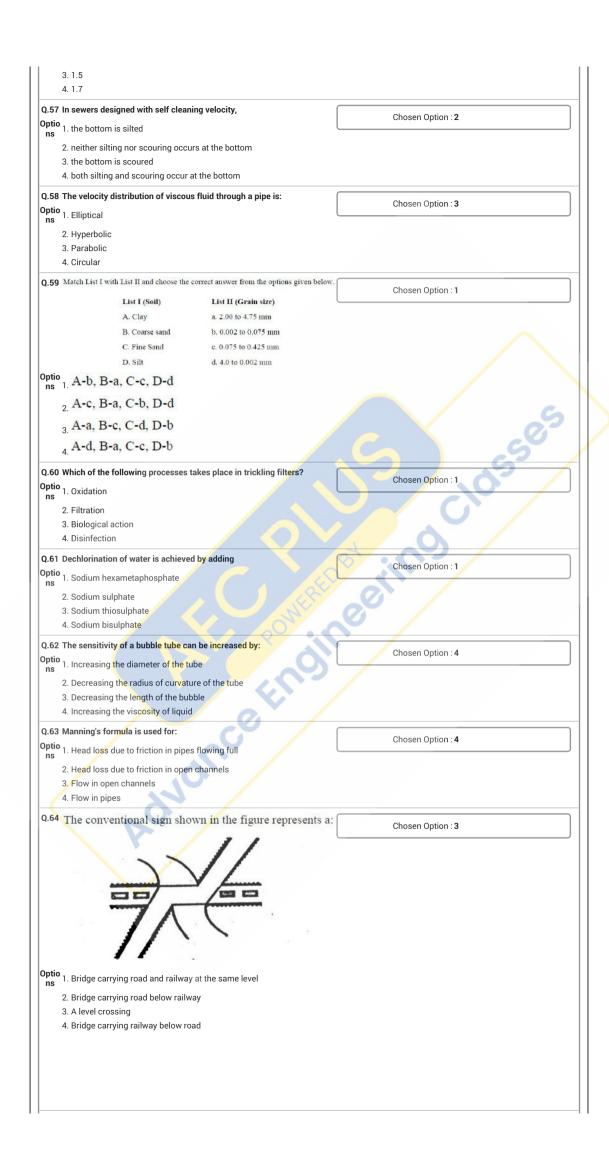
Q.8 Hydrophoblic cement relates with IS code of:	
Optio 1. IS: 8041-1990	Chosen Option : 4
2. IS: 6909-1990	
3. IS: 6452-1989	
4. IS: 8043-1991	
Q.9 You are given a sample of soil containing coarse grains to determine its water content. What will you use for the purpose?	Chosen Option : 4
Optio ns 1. Alcohal method	
Calcium carbide method	
3. Pycnometer	
4. Oven-drying method	
Q.10 Consider the following statements. A. Pumps in series operation allow the head to increase B. Pumps in series operation increase the flow rate	Chosen Option : 2
C. Pumps in parallel operation increase the flow rate D. Pumps in parallel operation allow the head to increase	
Which of these statements are correct?	
Optio ns 1. A and D	
ns 2. A and C	
3. B and D	
4. C and D	0
Q.11 Consider the following statements about theodolites. A. Transit theodolite is a theodolite in which the telescope can be transited.	Chosen Option : 3
 B. EDMI is a theodolite fitted with a micrometer for measurements. C. A double reading theodolite is one in which diametrically opposite segments of the graduated circle are brought into view and readings are correct. 	5 .55
Which of these statements are correct?	
Optio ns 1. All three	
2. Only A and C	
3. Only A and B	
4. Only B and C	
	Chosen Option : 2
Options 1. Both horizontal and vertical planes 2. Horizontal plane only 3. All planes except horizontal and vertical planes	Glosen Option . 2
Optio ns 1. Both horizontal and vertical planes 2. Horizontal plane only 3. All planes except horizontal and vertical planes 4. Vertical plane only	CO
Optio ns 1. Both horizontal and vertical planes 2. Horizontal plane only 3. All planes except horizontal and vertical planes 4. Vertical plane only Q.13 Broken bricks or stone chips are also called:	Chosen Option : 4
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2 A-b, B-c, C-d, D-a	
_{3.} A-b, B-d, C-a, D-c	
4 A-c, B-d, C-a, D-b	
4.114, 2 3, 6 4, 2 5	
Q.18 A closed contour line with two or more higher contours inside it will represent a:	Chosen Option : 3
Optio 1. Cave	
2. Depression	
3. Hill 4. Well	
Q.19 If the permeability of a soil is 0.8 mm/sec, the type of soil is:	
Optio 1. Gravel	Chosen Option : 2
2. Clay	
3. Silt	
4. Sand	
Q.20 Coefficient of consolidation for clays normally:	Chosen Option : 4
Optio 1. decreases with increase in liquid limit	5
increases with increase in liquid limit remains constant at all liquid limits	
4. first increases and then decreases with increase in liquid limit	Co /
Q.21 In which method of surveying, do both the field observation and plotting	
proceed simultaneously?	Chosen Option : 2
Optio 1. Compass surveying	0.
Plane table surveying Tacheometric surveying	
4. Chain surveying	2
Q.22 Which of the following are the most fire resistant paints?	Change Option (2
Optio 1. Cement paints	Chosen Option : 2
2. Asbestos paints	0)
3. Aluminium paints 4. Enamel paints	
Q.23 In which of the following pairs of trees, both trees yield soft wood?	
Optio 1 Chir and Sal	Chosen Option : 1
ns 2. Chir and Deodar	
3. Deodar and Shishum	
4. Sal and Teal	
Q.24 The main principle of surveying is to work:	Chosen Option : 4
Optio 1. From part to the whole	
2. From layer level to the lower level	
From lower level to the higher level From whole to the part	
Q.25 In comparison to Atterberg limit of normal soils, the expansion soils have which of the	
following? A. More liquid limit	Chosen Option : 3
B. Less plastic limit C. Less shrinkage limit	
D. More volumetric shrinkage	
Optio 1. Only A, C and D	
2. Only A, B and D 3. A, B, C and D	
4. Only B and C	
Q.26 A turbine works at 20 m head and 500 rpm speed. Its 1 : 2 scale model t	Chosen Answer :
o be tested at a head of 20 m should have a rotational speed of nearly Optio ns 1. 250 rpm	GIIOSEII AIISWEI . **
2. 1000 rpm 3. 500 rpm	
4. 700 rpm	
Q.27 Which is the most commonly used base for timber painting?	Chosen Ontion · 3
·	Chosen Option : 3

	3. Zinc white 4. White lead	
Optio	Granite is not suitable for ordinary building purpose because: 1. it is not a fire proof material.	Chosen Option : 2
	2. it is costly. 3. it cannot be polished. 4. it has less crushing strength.	
Q.29	What does the "Slump test" for concrete determine?	
Optio	1. Strength	Chosen Option : 3
	2. Durability 3. Workability 4. Water content	
Q.30	From the list of treatments given below, which treatments reduce salinity of water? A. Flash mixing and sedimentation B. Electrodialysis C. Reverse osmosis D. Freezing E. Filtration	Chosen Option : 1
~	Choose the correct answer.	
	1. A, C and E 2. A, B and D 3. A, B, C, D and E 4. B, C, and D	9
Q.31	Assertion A: Paints with white lead base are not recommended for painting of iron works. Reason R: Paints with white lead base do not check rusting of iron.	Chosen Option : 1
	Which of the following is correct?	
Optio ns	1. A is true but R is false.	
	2. Both A and R are true, and R is the correct explanation of A. 3. Both A and R are true but R is not the correct explanation of A. 4. A is false but R is true.	
Q.32	Assertion A: The inlet velocity triangle for a Pelton turbine is a straight line, Reason R: For a Pelton turbine, the vane angle at inlet is 180°.	Chosen Answer :
	Which of the following is correct?	(a)
Optio ns	1. A is true but R is false 2. Both A and R are true but R in not the correct explanation of A 3. A is false but R is true 4. Both A and R are true and R is the correct explanation of A	
Q.33	Assertion A: Permeability continues to decrease with the increase in dry density of a	Chosen Answer :
	compacted soil. Reason R: Soil particles in water surroundings may be mutually attracted or repulsed.	Oliosett Allswei ,
Optio ns	1. Both A and R are true and R is the correct explanation of A	
	 A is false but R is true Both A and R are true but R is not the correct explanation of A A is true but R is false 	
	The side slope of cipolletti weir is generally kept	Chosen Option : 1
	1. 1 to 3 2. 1 to 2 3. 1 to 4 4. 1 to 5	
	The maximum permissible limit for flouride in drinking water is: 1. 1.5 mg/litre	Chosen Option : 1
	2. 5 mg/litre 3. 0.1 mg/litre 4. 10 mg/litre	
Optio	The base material for distemper is: 1. Lime	Chosen Option : 2
	2. Chalk 3. Cement 4. Snowcem	
Optio	The stone that exhibits highest compressive strength is: 1. Gneisses	Chosen Option : 3
ns	1. UHC133E3	

4. Slate	
Q.38 If a tacheometer is fitted with an anallatic lens, then:	Chosen Answer :
Optio ns 1. the additive constant is 100, the multiplying constant is zero	
2. both multiplying and additive constants are 50	
3. both multiplying and additive constants are 100	
4. the multiplying constant is 100, the additive constant is zero	
Q.39 Match List I with List II and choose the correct answer from the options given below.	Chosen Option : 3
List I List II A. Pigment a. Turpentine	Chosen option.
A. Pigment a. Turpentine B. Drier b. Iron oxide	
C. Thinner c. Zinc sulphate	
D. Extender d. Aluminium silicate	
Optio ns 1. A-b, B-c, C-a, D-d	
_{2.} A-b, B-c, C-d, D-a	
3. A-c, B-b, C-a, D-d	
4. A-c, B-b, C-d, D-a	
Q.40 Which is the most commonly used sewer under culverts?	Chosen Option :1
Optio 1. Semi-elliptical sewer	Chosen Option . I
2. Circular cast iron sewer	0,3
3. Horse-shoe type sewer	6
4. Circular brick sewer	6
Q.41 The critical state of flow through a channel section may be defined as t he state of flow at which the:	Chosen Option : 2
Optio ns 1. discharge is maximum for a given specific force.	
2. discharge is minimum for a given specific energy.	
3. specific force is maximum for a given discharge.	
4. specific energy is maximum for a given discharge.	0
Q.42 For a given sandy soil whose soil grains are spherical in shape and of u	Chosen Option : 1
niform size, the theoretical void ratio is: Optio	Chosen option . I
ns 1. 0.01	0
2. 0.91	
3. 0.81	
4, 0,71	
4. 0.71	
4. 0.71 Q.43 Which method is used for the preparation of a contour plan for a route s urvey?	Chosen Option: 3
Q.43 Which method is used for the preparation of a contour plan for a route s urvey? Optio 1 Indirect method of contouring	Chosen Option : 3
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Q.43 Which method is used for the preparation of a contour plan for a route s urvey? Optio 1. Indirect method of contouring 2. Method of cross profile	Chosen Option : 3
Q.43 Which method is used for the preparation of a contour plan for a route s urvey? Optio ns 1. Indirect method of contouring 2. Method of cross profile 3. Method of squares	
Q.43 Which method is used for the preparation of a contour plan for a route s urvey? Optio ns 1. Indirect method of contouring 2. Method of cross profile 3. Method of squares 4. Method of trace contour	Chosen Option : 3 Chosen Option : 3
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Optio ns 1. Measuring distance from two points on traverse line	
Measuring angle at one station and distance from other	
3. Measuring angle and distance from one transit station	
4. Measuring angle to the point from at least two station	
0.48	
	Chosen Option : 2
Optio 1.	
ns 1.	
2.	
3.	
4.	
2.49 Approximately, what is the specific gravity of sands?	Chagan Option : 2
Optio 1. 2	Chosen Option : 2
ns 1.2 2. 2.6	
3. 2.4	
4. 2.2	
Q.50 A high efficiency pump is required for low discharge, high head and low maintenance cost. Delivery of water need not be continuous. The pump	Chosen Option : 2
need not run at high speed. Which one of the following is the correct ch	-5-
oice?	
ns 1. Air lift pump	
2. Centrifugal pump	
3. Hydraulic ram	
Reciprocating pump	
Q.51 The horse power transmitted through a pipe is maximum when the ratio	
of loss of head due to friction to the total head supplied is:	Chosen Answer :
Optio 1/2	
ns _{1.} 4	
1	01
2. 2	
3.	
4.	
D. E.O. Dhuwaad in wada bu banding tagathay thin layan of ward in augh a way	
Q.52 Plywood is made by bonding together thin layers of wood in such a way that the angle between grains of any layer to grains of adjacent layers i	Chosen Option : 3
s:	
Optio 1. 30	
2.0	
3. 90	
4. 45	
Q.53	Chosen Option : 2
Detions 1. Silt of low plasticity	
2. Organic soil of medium plasticity	
3. Clay of intermediate plasticity	
4. Clay of high plasticity	
Q.54 In a centrifugal pump casing, the flow of water leaving the impeller, is:	
	Chosen Option : 4
Optio 1. Forced vortex	
2. Free vortex motion	
3. Rectilinear flow	
4. Radial flow	
Q.55 Based on the following rocks and minerals, select the correct statemen	
t.	Chosen Option : 1
Quartz, shale, basalt, granite, marble, gypsum, mica	
Optio ns 1. Quartz and mica are minerals	
2. Granite is the only igneous rock	
3. Basalt and marble are the only metamorphic rocks 3. Basalt and marble are the only metamorphic rocks	
Dasait and marble are the only metamorphic rocks There is no sedimentary rock	
<u> </u>	
Q.56 For a good building stone, its specific gravity should be greater than:	Chosen Option : 2
Optio ns 1. 2.2	·
2. 2.7	



Q.65 What does the term "frog" mean?	
Optio 1. A depression on a face of brick	Chosen Option : 1
ns	
Soaking brick in water An apparatus to lift the stone	
4. Vertical joint in a brick work	
Q.66 For a colony of 10,000 persons having sewage flow rate of 200 L/capit	
a/day, BOD of applied sewage of 300 mg/L and organic loading of 300 k g/day/hectare, the area of an oxidation pond required for treating the se wage of the colony is:	Chosen Option : 2
Optio 1. 2 hectares	
2. 6 hectares	
3. 0.2 hectares	
4. 1 hectare	
Q.67 A sewer is laid from manhole A to manhole B, 250 m apart along a down ward gradient of 1 in 125. If the reduced level of the invert at A is 205.7 5 m and the height of the boning rod is 3 m, then the reduced level of the sight rail at B is:	Chosen Answer :
Optio ns 1. 206.75 m	
2. 202.75 m	
3. 208.75 m	
4. 211.75 m	
Q.68 A rectangular open channel carries a discharge of 15 m ² /s when the depth of flow is 1.5 m and the bed slope is 1: 1440. What will be the discharge through the channel at the same depth if the slope would have been 1: 1000?	Chosen Answer :
Optio 1.	
2.	G
_{3.} 14.4 m³/s	5
4.	10-
Q.69 The real image of an object formed by the objective must lie:	
Optio 1. at the optical centre of the eye-piece	Chosen Option : 1
ns 1. at the optical centre of the eye-piece	
in the plane of cross hairs at the centre of the telescope	
4. anywhere inside the telescope	
Q.70 Disinfection of water results in:	
Optio ns 1. Complete sterilization	Chosen Option : 2
2. Killing of disease bacteria	
3. Removal of turbidity	
4. Removal of hardness	
0.71	Chosen Option : 3
Optio ns 1. A, C and D	
2. C, D and E	
3. B, D and E 4. A, B and C	
Q.72 In a wet soil mass, air occupies one-sixth of its volume and water occup ies one-third of its volume. The void ratio of the soil is:	Chosen Option : 2
Optio ₁ . 0.25	
2. 0.5	
3. 1.5	
4. 1	
Q.73	Chosen Option : 2
	Chocki option:2
Ontio	
ns 1. 3 m	
optio 1. 3 m ns 2. 4 m	
2. 4 m 3. 2 m	
2. 4 m	
2. 4 m 3. 2 m 4. 6 m Q.74 Which of the following filters will produce water of higher bacteriologica I quality?	Chosen Option : 2
2. 4 m 3. 2 m 4. 6 m Q.74 Which of the following filters will produce water of higher bacteriologica I quality?	Chosen Option : 2
2. 4 m 3. 2 m 4. 6 m Q.74 Which of the following filters will produce water of higher bacteriologica quality?	Chosen Option : 2
2. 4 m 3. 2 m 4. 6 m Q.74 Which of the following filters will produce water of higher bacteriologica quality? Optio 1. Pressure filter 2. Slow sand filter 3. Dual media filter	Chosen Option : 2
2. 4 m 3. 2 m 4. 6 m Q.74 Which of the following filters will produce water of higher bacteriologica quality? Optio ns 1. Pressure filter 2. Slow sand filter	Chosen Option : 2
3. 2 m 4. 6 m Q.74 Which of the following filters will produce water of higher bacteriologica 1 quality? Options 1. Pressure filter 2. Slow sand filter 3. Dual media filter 4. Rapid sand filter Q.75	Chosen Option : 2
2. 4 m 3. 2 m 4. 6 m Q.74 Which of the following filters will produce water of higher bacteriologica quality? Options 1. Pressure filter 2. Slow sand filter 3. Dual media filter 4. Rapid sand filter	

	4.	
Sect	ion : Numerical and logical Reasoning questions	
	If 'JUDGEMENT' is written as 'UTNMJGEED' in a certain language, how would 'CURIOSITY' be written in the language?	Chosen Option : 2
iptio ns	1. YUTSROIIC	
	2. UYSTROIIC	
	3. YUSTROIIC	
	4. YUTSORIIC	
Q.2	Among 5 items, A weighs half as much as E. B weighs three and half tim es as much as D. C weighs half as much as B and one and half times as much as A.	Chosen Option : 3
	Which of the following is the descending order of the weights of the ite ms?	
ptio	1. BECDA	
ns		
	2. BECAD	
	3. DAECB	
	4. DACEB	
Q.3	Each of the following two rows contains 3 numbers. Some rules are given below to be used for getting the resultant for each row separately. Apply the rules for each row from left to right and answer the question.	Chosen Answer :
	Rules:	
	(i) If an even number is followed by an odd but not prime number, both are to be	
	multiplied.	
	 (ii) If an even number is followed by a prime number, both are to be added. (iii) If an odd number is followed by a composite odd number, the first number is to be subtracted from the square of the second number. (iv) If an odd number is followed by an even number, the odd one is to be subtracted. 	5 5
	from the even number.	
	Row I: 14, 9, 23	
	Row II: 17, 21, 11	
	What is the difference between the resultants of the first row and the second row?	
ntio		
ns	1. 286	
	2. 357	
	3. 176	
	4. 384	
Q.4	The first two figures on the left side of the sign '::' are related in a certain way. The same relationship holds for the second pair of figures on the right side of the sign '::', of which one is missing. Which of the following is the missing one?	Chosen Option : 4
Optio ns		
	2.	
	3.	
0.5	4.	
Q.5		Chosen Answer :
	4. Which number will replace the question mark in the following number series? 28, 22, 32, 17, 37, 13, ?	Chosen Answer :
Optio	4. Which number will replace the question mark in the following number series? 28, 22, 32, 17, 37, 13, ?	Chosen Answer :
Optio ns	4. Which number will replace the question mark in the following number series? 28, 22, 32, 17, 37, 13, ? 1. 43	Chosen Answer :
Optio ns	4. Which number will replace the question mark in the following number series? 28, 22, 32, 17, 37, 13, ? 1. 43 2. 27	Chosen Answer :
Optio ns	4. Which number will replace the question mark in the following number series? 28, 22, 32, 17, 37, 13, ? 1. 43 2. 27 3. 45	Chosen Answer :
Optio ns	4. Which number will replace the question mark in the following number series? 28, 22, 32, 17, 37, 13, ? 1. 43 2. 27	Chosen Answer :
Optio ns	4. Which number will replace the question mark in the following number series? 28, 22, 32, 17, 37, 13, ? 1. 43 2. 27 3. 45	Chosen Answer : Chosen Option : 4
Optio ns Q.6	Which number will replace the question mark in the following number series? 28, 22, 32, 17, 37, 13, ? 1. 43 2. 27 3. 45 4. 42 B is the sister of D, who is the father of R. R is S's brother and E is the h usband of S. Which of the following statements is true?	Chosen Answer :
Optio ns Q.6	Which number will replace the question mark in the following number series? 28, 22, 32, 17, 37, 13, ? 1. 43 2. 27 3. 45 4. 42 B is the sister of D, who is the father of R. R is S's brother and E is the h usband of S.	Chosen Answer :

3. E is the brother-in-law of B 4. B is the niece of S	
Q.7 A mixture of 220 litres contains milk and water in the ratio of 7:4. How	
much water is to be added to the mixture to reverse the ratio of milk and water in the mixture?	Chosen Option : 2
Optio ns 1. 150 litres	
2. 165 litres	
3. 175 litres 4. 145 litres	
Q.8 Four words are given below out of which three are alike in some manner and one is different. Which of the given words is different from the other three?	Chosen Option : 1
Optio 1. Alligator	
2. Leopard	
3. Tiger 4. Lion	
Q.9 Four figures are given below out of which three are similar in a certain w	
ay and one is different. Which of the given figures is different from the o ther three?	Chosen Option : 3
the times:	
Outin)	
Optio ns	
	6
· · · · · · · · · · · · · · · · · · ·	-03
	65
2. V	
Y _	
	0.
3. •	
	0
4. 9	20 ,
Q.10 The first two letter clusters on the left side of the sign '::' are related in a	
certain way. The same relationship holds for the second pair of letter cl usters on the right side of the sign '::', of which one is missing. Which of	Chosen Answer :
the following is the missing one?	
BHDF: YPVS::?: XRVT Optio ns 1. CIEG	
Optio 1. CIEG ns 2. CFDE 3. DCFE	
3. DGEF	
4. FCED	
Section: Computer Applications	
Q.1 Which of the following is not application software?	Observe Ordina A
Options 1. Browser	Chosen Option : 4
2. Device driver	
3. Word processor 4. Database	
Q.2 What is the bandwidth required for a broadband Internet connection?	
Optio ns 1. 1.128 kbps	Chosen Option : 2
2. 2.256 kbps	
3. 4028 kbps 4. 3.512 kbps	
Q.3 Which of the following is best-suited for remote administration of a co	
mputer?	Chosen Option : 4
Optio 1. WAIS	
2. Browser 3. HTML	
4. Telnet	
Q.4 Which button should be chosen to create an Excel chart out of selected	Chosen Option : 3
cells? Optio 1. F5	onesch option . s
2. F11	

3. F7	
4. F3	
Q.5 Which of the following softwares merges the records from two files into one?	Chosen Option : 2
Optio 1. Networking software ns	
2. Documentation program	
Security software Utility program	
Q.6 Which of the following is meant foe viewing web pages?	
Optio ns 1. Interpreter	Chosen Option : 3
2. OS	
3. Browser 4. Website	
Q.7 Which of the following coordinates operations using timing signals?	
Optio 1 Control unit	Chosen Option : 4
ns 2. Memory unit	
3. I/O unit	
4. ALU	
Q.8 From which menu one can insert Header and Footer into a Word docum ent?	Chosen Option : 2
Optio 1. Tools	6
2. Insert	0
3. Format 4. View	65
Q.9 Which of the following is an input device and an output device at the sa	
me time?	Chosen Option : 1
ns 1. LCD projector panels	0.
Touch screen Audio card	
4. Modem	
2.10 The decimal equivalent of the binary number (0.10110101)2 is:	Chosen Option : 4
Optio ns 1, (0.70703125)10	
2 (0.37)10	0
3. (85)10	
4. (0.875) ₁₀	
4. (0.073)10	
Section : GK / Awareness	
Q.1 The famous Khaj <mark>ura</mark> ho te <mark>mples wer</mark> e built by:	Chosen Option : 1
Dotions 1. Chandela	
2. Holkars	
3. Bundela 4. Scindias	
Q.2 The northern part of the west coast of India is known as:	
0ptio 1. Konkan coast	Chosen Option : 4
2. Bengal coast	
Malabar coast Coromandal coast	
Q.3 BCG vaccination (Bacillus Calmette Guerine) is injected to get immunit	
y from:	Chosen Option : 4
optio 1. Tuberculosis ns	
2. Polio 3. Jaundice	
4. Cholera	
Q.4 Who is the founder of Indian Institute of Science, Bangalore?	Chasan Ostion : 1
Optio ns 1. Vishveshvarayya	Chosen Option : 1
2. Jamsetji Tata	
3. CV Raman 4. Vikram Sarabhai	
4. VIKram Sarabnai Q.5 Who among the following is not a recipient of Bharat Ratna?	
Optio 1 Lal Bahadur Shaetri	Chosen Option : 2
ns I. Lai Bahadur Shastri	

- 2. Netaji Subhash Chandra Bose
- 3. Dr. S.Radhakrishnan
- 4. Mrs. Indira Gandhi

