# JAMMU AND KASHMIR PUBLIC SERVICE COMMISSION

RESHAM GHAR COLONY, BAKSHI NAGAR, JAMMU - 180001

Website: http://jkpsc.nic.in email: coejkpsc2017@gmail.com Jammu: 0191-2566533

Subject: Written Examination for the post(s) of Assistant Professor(s) Technology, Computer Application, Management, Structural Engineering (School of Architecture)] and Physical Training Instructor in Higher Education Department -Provisional Answer Key(s) thereof.

> Notification No. PSC/Exam/S/2024/04 Dated: 18.03.2024

In pursuance of Rule 10(c) of the Jammu & Kashmir Public Service Commission (Conduct of Examination) Rules, 2022, as amended upto date, the Provisional Answer Key(s) of Question Papers pertaining to the written examinations for the post(s) of Assistant Professor(s) [Agriculture Technology, Computer Application, Retail Management, Structural Engineering (School of Architecture)] and Physical Training Instructor in Higher Education Department held on 17.03.2024, are hereby notified for seeking objections from candidates.

#### Provisional Answer Key

Assistant Professor (Agriculture Technology) Test Rooklet Ouestion No.

Test Booklet Question No. (Series A)	
Q1.	Α
Q2.	В
Q3.	D
Q4.	В
Q5.	D
Q6.	c
Q7.	D
Q8.	В
Q9.	А
Q10.	D
Q11.	В
Q12.	Α
Q13.	А
Q14.	А

(Serie	
Q15.	В
Q16.	D
Q17.	Α
Q18.	В
Q19.	В
Q20.	c
Q21.	Α
Q22.	В
Q23.	В
Q24.	D
Q25.	c
Q26.	А
Q27.	c
Q28.	А

Test Booklet Question No. (Series A)	
Q29.	В
Q30.	D
Q31.	D
Q32.	А
Q33.	D
Q34.	D
Q35.	В
Q36.	А
Q37.	D
Q38.	Α
Q39.	D
Q40.	В
Q41.	D
Q42.	А

Test Booklet Question No (Series A)	
Q43.	D
Q44.	В
Q45.	Α
Q46.	В
Q47.	В
Q48.	c
Q49.	В
Q50.	В
Q51.	A
Q52.	А
Q53.	Α
Q54.	Α
Q55.	В
Q56.	С
Q57.	Α
Q58.	А
Q59.	А
Q60.	А
Q61.	Α
Q62.	c
Q63.	В
Q64.	Α
Q65.	А
Q66.	В
Q67.	В
Q68.	A

Test Booklet Question No (Series A)	
Q69.	С
Q70.	D
Q71.	А
Q72.	D
Q73.	В
Q74.	В
Q75.	D
Q76.	А
Q77.	D
Q78.	В
Q79.	D
Q80.	с
Q81.	D
Q82.	Α
Q83.	С
Q84.	c
Q85.	c
Q86.	A
Q87.	В
Q88.	Α
Q89.	Α
Q90.	c
Q91.	В
Q92.	c
Q93.	А
Q94.	D

OOF	
Q95.	В
Q96.	c
Q97.	Α
Q98.	В
Q99.	С
Q100.	c
Q101.	D
Q102.	D
Q103.	Α
Q104.	В
Q105.	Α
Q106.	D
Q107.	c
Q108.	А
Q109.	c
Q110.	В
Q111.	Α
Q112.	В
Q113.	А
Q114.	В
Q115.	А
Q116.	В
Q117.	В
Q118.	D
Q119.	А
Q120.	А



# Assistant Professor (Computer Application)

Test Booklet Question No (Series A)	
Q1	В
Q2	C
Q3	С
Q4	D
Q5	С
Q6	В
Q7	D
Q8	Α
Q9	A
Q10	В
Q11	С
Q12	D
Q13	С
Q14	C
Q15	С
Q16	В
Q17	Α
Q18	В
Q19	Α
Q20	В
Q21	D
Q22	D
Q23	Α
Q24	D
Q25	С
Q26	D
Q27	D
Q28	D
Q29	В
Q30	C
Q31	С
Q32	В
Q33	С
Q34	D
Q35	В
Q36	С
Q37	В
Q38	В
Q39	A
Q40	D

Test Booklet Question No (Series A)	
Q41	C
Q42	c
Q43	c
Q44	В
Q45	c
Q46	D
Q47	D
Q48	А
Q49	Α
Q50	В
Q51	А
Q52	С
Q53	В
Q54	D
Q55	С
Q56	A
Q57	С
Q58	С
Q59	D
Q60	A
Q61	С
Q62	В
Q63	В
Q64	D
Q65	В
Q66	С
Q67	В
Q68	В
Q69	С
Q70	В
Q71	С
Q72	В
Q73	A
Q74	Α
Q75	С
Q76	В
Q77	С
Q78	В
Q79 Q80	C

Test Booklet Question No. (Series A)	
Q81	С
Q82	Α
Q83	В
Q84	В
Q85	С
Q86	D
Q87	С
Q88	С
Q89	Α
Q90	c
Q91	c
Q92	А
Q93	В
Q94	Α
Q95	D
Q96	В
Q97	В
Q98	С
Q99	Α
Q100	Α
Q101	A
Q102	D
Q103	Α
Q104	D
Q105	D
Q106	В
Q107	В
Q108	Α
Q109	Α
Q110	С
Q111	В
Q112	С
Q113	Α
Q114	Α
Q115	c
Q116	В
Q117	Α
Q118	Α
Q119	С
Q120	D

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#### Assistant Professor (Retail Management)

Test Booklet Question No (Series A)	
Q1	В
Q2	c
Q3	D
Q4	c
Q5	С
Q6	D
Q7	В
Q8	В
Q9	С
Q10	В
Q11	A
Q12	В
Q13	D
Q14	С
Q15	В
Q16	В
Q17	В
Q18	D
Q19	D
Q20	В
Q21	c
Q22	Α
Q23	D
Q24	С
Q25	Α
Q26	D
Q27	С
Q28	С
Q29	D
Q30	В
Q31	Α
Q32	С
Q33	В
Q34	c
Q35	В
Q36	В
Q37	Α
Q38	С
Q39	D
Q40	C

est Booklet ( Serie)	
Q41	D
Q42	D
Q43	c
Q44	D
Q45	С
Q46	c
Q47	D
Q48	В
Q49	Α
Q50	А
Q51	Α
Q52	Α
Q53	c
Q54	С
Q55	D
Q56	В
Q57	C
Q58	D
Q59	D
Q60	В
Q61	C
Q62	В
Q63	Α
Q64	В
Q65	В
Q66	D
Q67	С
Q68	В
Q69	Α
Q70	D
Q71	В
Q72	c
Q73	В
Q74	В
Q75	С
Q76	С
Q77	В
Q78	A
Q79	В
Q80	В

Test Booklet Question No. (Series A)	
Q81	c
Q82	С
Q83	С
Q84	С
Q85	С
Q86	c
Q87	С
Q88	c
Q89	С
Q90	С
Q91	С
Q92	С
Q93	D
Q94	В
Q95	С
Q96	В
Q97	D
Q98	c
Q99	В
Q100	В
Q101	В
Q102	С
Q103	A
Q104	A
Q105	С
Q106	Α
Q107	D
Q108	Α
Q109	Α
Q110	D
Q111	В
Q112	С
Q113	В
Q114	D
Q115	В
Q116	С
Q117	С
Q118	В
Q119	D
Q120	D

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# Assistant Professor (Structural Engineering)

Fest Booklet ( Serie)	
Q1	В
Q2	В
Q3	С
Q4	D
Q5	D
Q6	Α
Q7	D
Q8	c
Q9	D
Q10	D
Q11	Α
Q12	D
Q13	Α
Q14	С
Q15	С
Q16	В
Q17	В
Q18	В
Q19	В
Q20	D
Q21	А
Q22	C
Q23	С
Q24	c
Q25	Α
Q26	Α
Q27	D
Q28	c
Q29	С
Q30	В
Q31	С
Q32	В
Q33	С
Q34	D
Q35	c
Q36	В
Q37	A
Q38	Α
Q39	Α
Q40	D

Test Booklet ( (Serie	
Q41	D
Q42	В
Q43	Α
Q44	A
Q45	С
Q46	В
Q47	D
Q48	D
Q49	D
Q50	Α
Q51	Α
Q52	В
Q53	D
Q54	D
Q55	В
Q56	С
Q57	В
Q58	Α
Q59	c
Q60	D
Q61	A
Q62	С
Q63	В
Q64	В
Q65	С
Q66	Α
Q67	В
Q68	Α
Q69	В
Q70	В
Q71	D
Q72	C
Q73	С
Q74	Α
Q75	В
Q76	D
Q77	D
Q78	Α
Q79	c
Q80	A

Test Booklet ( (Serie	
Q81	A
Q82	В
Q83	Α
Q84	Α
Q85	С
Q86	С
Q87	С
Q88	В
Q89	D
Q90	D
Q91	D
Q92	В
Q93	С
Q94	D
Q95	D
Q96	D
Q97	С
Q98	c
Q99	D
Q100	В
Q101	А
Q102	Α
Q103	С
Q104	В
Q105	В
Q106	Α
Q107	В
Q108	В
Q109	Α
Q110	D
Q111	В
Q112	Α
Q113	Α
Q114	Α
Q115	С
Q116	C
Q117	Α
Q118	В
Q119	D
Q120	D

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# **Physical Training Instructor**

est Booklet ( Serie)	
Q1	c
Q2	Α
Q3	D
Q4	A
Q5	D
Q6	В
Q7	В
Q8	Α
Q9	В
Q10	С
Q11	С
Q12	D
Q13	С
Q14	С
Q15	В
Q16	Α
Q17	В
Q18	В
Q19	D
Q20	В
Q21	С
Q22	В
Q23	Α
Q24	В
Q25	Α
Q26	Α
Q27	В
Q28	В
Q29	Α
Q30	В
Q31	Α
Q32	В
Q33	С
Q34	В
Q35	A
Q36	В
Q37	С
Q38	С
Q39	В
Q40	Α

Test Booklet ( Serie	
Q41	A
Q42	С
Q43	В
Q44	A
Q45	С
Q46	Α
Q47	С
Q48	С
Q49	В
Q50	Α
Q51	С
Q52	D
Q53	Α
Q54	С
Q55	D
Q56	В
Q57	C
Q58	A
Q59	Α
Q60	c
Q61	С
Q62	Α
Q63	Α
Q64	С
Q65	C
Q66	Α
Q67	D
Q68	c
Q69	D
Q70	В
Q71	D
Q72	Α
Q73	С
Q74	A
Q75	С
Q76	С
Q77	В
Q78	В
Q79	В
Q80	C

Test Booklet C (Serie	
Q81	Α
Q82	В
Q83	В
Q84	В
Q85	С
Q86	В
Q87	В
Q88	С
Q89	С
Q90	С
Q91	В
Q92	A
Q93	С
Q94	В
Q95	В
Q96	Α
Q97	c
Q98	В
Q99	D
Q100	D
Q101	С
Q102	D
Q103	В
Q104	А
Q105	D
Q106	Α
Q107	D
Q108	В
Q109	Α
Q110	D
Q111	С
Q112	С
Q113	В
Q114	D
Q115	A
Q116	В
Q117	В
Q118	С
Q119	В
Q120	В

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The candidates are advised to refer to **Question Booklet (Series A)** to match the corresponding question(s) in their respective Question Booklet Series and if any candidate feels that the key to any of the question(s) is/are wrong, he/she may represent on prescribed format/proforma annexed as **Annexure-A** along with the documentary proof/evidence (hard copies only) and fee of Rs.500/- per question in the form of Demand Draft drawn in favour of **COE**, **J&K PSC** (refundable in case of genuine/correct representation) to the Controller of Examinations, Jammu & Kashmir Public Service Commission, from 19.03.2024 to 22.03.2024. The candidates are further advised to clearly mention the question(s) objected to with reference to its serial number as it appears in the Question Booklet of Series A of the provisional answer key(s).

Further, any objection/application not accompanied by the requisite Demand Draft of Rs.500/- as prescribed, shall not be considered/entertained under any circumstances. Candidates are, in their own interest, advised to adhere to these instructions and not submit any objection unaccompanied by the Demand Draft as required under extant rules.

The Commission shall not entertain any such representation(s) after the expiry of the stipulated period i.e. after 22.03.2024 (Friday), 05.00 pm.

The provisional answer key(s)are available on the website of the Commission http://www.jkpsc.nic.in.

> 18.03.2024 (G.L Sharma), JKAS

Additional Secretary J&K Public Service Commission

Dated: 18.03.2024

No. PSC/Ex-Secy/2024/09

Copy to the: -

 Director, Information and Public Relations, J&K for publication of the notice in all leading newspapers published from Jammu/Srinagar.

P.S. to Hon'ble Chairman, J&K Public Service Commission for Information of the Hon'ble Chairman.

 P.S. to Hon'ble Member, Shri \_\_\_\_\_\_ for information of the Hon'ble Member.

P. A. to Secretary, J&K Public Service Commission for information of the Secretary.

P.A. to Controller of Examinations, J&K Public Service Commission.

6. Main file/Stock file/Notice Board.

#### Annexure-A

Representation regarding objection(s) to any Question/Answer pertaining to the Written Test conducted for the post(s) of Assistant Professor in the disciplines of Agriculture Technology, Computer Application, Retail Management, Structural Engineering (School of Architecture) and Physical Training Instructor in Higher Education Department on 17.03.2024

(NOTE: USE SEPARATE FORMS FOR SEPARATE QUESTIONS)

Policant:	.03.2024  Code :	
No.: ion: lo. date : ount No.(16 digit) & IFSC	Code :	
No.: ion: lo. date : ount No.(16 digit) & IFSC	Code :	
ion: lo. date : ount No.(16 digit) & IFSC (	Code :	
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ount No.(16 digit) & IFSC		
Details of the Objection	Pasaurca Material	
Details of the Objection	Posource Material	
Details of the Objection	Docourco Matorial	
Details of the Objection	(copy to be enclosed)	Details of the Website (if any)

#### Signature of the Candidate

Note: Application for each question/answer shall be made on separate page in the given format, otherwise the first question entered in the format shall only be considered.

Page 8 of 8

Booklet Serial No. 216557

Test Booklet Series

#### TEST BOOKLET AGRICULTURE TECHNOLOGY



Written Test - 2023

(30)

Time Allowed: Two Hours

Maximum Marks: 120

#### INSTRUCTIONS

- IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET **DOES NOT** HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS, ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
- Please note that it is the candidate's responsibility to encode and fill in the Roll Number and Test Booklet Series Code A, B, C or D carefully and without any omission or discrepancy at the appropriate places in the OMR Answer /Response Sheet. Any omission/discrepancy will render the Response Sheet liable for rejection.
- 3. You have to enter your Roll Number on the
  Test Booklet in the Box provided alongside.

  DO NOT write anything else on the Test Booklet.
- 4. This Test booklet contains 120 items (questions). Each item comprises of four responses (answers). You will select the response which you want to mark on the Answer Sheet/Response Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose ONLY ONE response for each item.
- You have to mark all your responses ONLY on the separate Answer/Response Sheet provided. See directions in the Response Sheet.
- 6. All items carry equal marks.
- Before you proceed to mark in the Answer /Response Sheet, the response to various items in the Test Booklet, you have to fill in some particulars in the Answer /Response Sheet as per instructions sent to you with your Admission Certificate.
- 8. After you have completed filling in all your responses on the Response Sheet and the examination has concluded, you should hand over to the Invigilator only the Answer /Response Sheet. You are permitted to take away with you the Test Booklet and Candidate's Copy of the Response Sheet.
- Sheets for rough work are appended in the Test Booklet at the end.
- While writing Centre, Subject and Roll No. on the top of the Answer Sheet/Response Sheet in appropriate boxes use "ONLY BALL POINT PEN".
- 11. Penalty for wrong answers:

# THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY THE CANDIDATE IN THE WRITTEN TEST (OBJECTIVE TYPE QUESTIONS PAPERS).

- (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, (0.25) of the marks assigned to that question will be deducted as penalty.
- (ii) If a candidate gives more than one answer, it will be treated as a wrong answer even if one of the given answers happens to be correct and there will be same penalty as above for that question.
- (iii) If a question is left blank, i.e., no answer is given by the candidate, there will be no penalty for that question.

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO

restion .



1.	Yell	low Revolution started in 1986-87 in India is related to the production of:					
	A)	Edible oil seeds					
	B)	Honey					
	C)	Fruits					
	D)	Leather					
2.	Fati	ner of yellow revolution was:					
	A)	Dr. Harilal Chaudhari					
	B)	Sam Pitroda					
	C)	NirpakhTutaj					
	D)	Dr. Arun Krishnan					
3.	Aso	oil group within a sub-class:					
	A)	Subclass unit					
	B)	Land capability Class					
	C)	Land class unit					
	D)	Capability Unit					
4.		is regarded as the father of Conservation Tillage:					
	A)	Jethro Tull					
	B)	Edward H. Faulkner					
	C)	PeterDecresenzi					
	D)	Glubler B. Triplets					
5.	Lysi	Lysimeter is a device for measuring:					
	A)	Evaporation					
	B)	Percolation					
	C)	Evapo-transpiration					
	D)	Evapo-transpiration+ percolation					
6.	The	The four key criteria of agroforestry are intentional, intensive,, integrated,					
	com	monly known as the essence of agroforestry:					
	A)	Invasive					
	B)	Inherited					
	C)	Interactive					
	D)	Interesting					
7.	The	The ideal hedge species for erosion control (due to their slower leaf decay) in alley					
	crop	pping are					
	A)	Leucaena spp					
	B)	Cassia siamea					
	C)	Gliricidiasepium					
	D)	Both b and c					

	D)	Dr.C.L.Acharya					
	C)	Sh. Narayan Deorao Pandharipande					
	B)	Sir Elbert Howard					
	A)	Dr. C.N. Acharya					
14.	Ban	angalore method of Compost preparation was developed by:					
	-3						
	D)	None of the above					
	C)	Amount of organic matter present in the soil					
	D)	environmental conditions					
	B)	Produce crop yields under specified systems of management of inputs and					
13.	A)	[10] THE STATE OF					
13.	Soil	Soil fertility is the ability of the soil to:					
	D)	Chroma, value and hue					
	C)	Value, hue and chroma					
	B)	Hue, chroma and value					
	A)	Hue, value and chroma					
12.		he colour notation 10 YR 4/610 YR denotes, 4 and 6:					
12	70.00	a solom potetica 10 VD 4/610 VD 1					
	D)	Regolith					
	C)	Bed Rock					
	B)	Soil Profile					
	A)	Horizon					
11.		vertical section of soil is called as:					
700	D)	All of the above					
	C)	Jhum cultivation					
	B)	Swidden agriculture					
	A)	Podu					
10.	Shit	fting cultivation is also known as:					
	D)	Manila, Philippines					
	C)	Rome					
	B)	Lima					
	A)	El Batan, Mexico					
9.	The	International Wheat and Maize Improvement Centre (CIMMYT) is located at:					
	D)	Bhopat, Madilya Fradesii					
	D)	Bhopal, Madhya Pradesh					
	B) C)	Malegaon khurd, Pune New Delhi					
	A)	Raipur, Chhattisgarh					
0.							
8.	ICA	AR-National Institute of Abiotic Stress Management is located at:					

15.	Y-ir	ndex, which assesses the dominating type of clay mineral was proposed by:			
	A)	Goldschmidt			
	B)	Martin and Russel			
	C)	Beaton			
	D)	None of the above			
16.	Exa	mples of Phyllosilicate minerals:			
	A)	Kao linite			
	B)	Antigorite			
	C)	Talc			
	D)	All of the above			
17.	The	dominant clay minerals (50-60%) present in the alluvial soils is:			
	A)	Illite			
	B)	Kao linite			
	C)	Smectite			
	D)	None of the above			
18.	Org	anic matter in the water logged soil acts as an			
	A)	Electron acceptor			
	B)	Electron donor			
	C)	Acidifying agent			
	D)	Buffer agent			
19.		and are the most commonly used amendments			
	for t	the reclamation of acid and sodic soils, respectively:			
	A)	Sand and Gypsum			
	B)	Lime and Gypsum			
	C)	Lime and Fly Ash			
	D)	Gypsum and Lime			
20.		d the following statements and choose the correct answer(s)			
		<b>ement I:</b> Incorporation of fertilizers into the soil prior to planting is known as top sing.			
	Statement II: Phosphatic fertilizers are commonly applied as top dressing. In light of				
	the above statements choose the most appropriate answer from the options given below;				
	A)	Statement I is true but Statement II is false			
	B)	Statement I is false but Statement II is true			
	C)	Both statements I and II are false			
	D)	Both statements I and II are true			

(5)

(30) (A)

[P.T.O.

21.	Climatological approach of irrigation scheduling is based on:					
	A)	IW: CPE Method				
	B)	Readily available information	on on weathe	r, cro	pand soil information	
	C)	Tensiometer reading			• The second of	
	D)	None of the above				
22.	Mat	tch the following:				
	a)	Grey speck in oats	i)	Mg		
	b)	Fern leaf of potato	ii)	В		
	c)	Grass tetany	iii)	Zn		
	d)	Internal cork of apple	iv)	Mn		
	A)	a(ii), b (iv), c (i), d(iii)				
	B)	a(iv), b (iii), c (i), d(ii)				
	C)	a(iv), b (iii), c (ii), d(i)				
	D)	a(iii), b (iv), c (i), d(ii)				
23.	Sul	phate of potash (Potassium sulpl	hate) contains	8	% Sulphur:	
	A)	50%				
	B)	17%				
	C)	25%				
	D)	12%				
24.	Wh	ich one is not a Nitrification inh	ibitor:			
	A)	N- serve				
	B)	Acetylene				
	C)	Neem cake				
	D)	NBPT				
25.	At of_	wilting point, water is held at	a tension of	_	bar at equivalent pF value	
	A)	31 bar,4.5				
	B)	31 bar, 2.5				
	C)	15 bar, 4.2				
	D)	15 bar, 4.5				
26.	The	pressure potential in a soil colu	umn below the	e wat	er table or free water surface is	
	A)	Positive				
	B)	Negative				
	C)	Unity				
	D)	Zero				
	.5050	5006F38				

27.	Which one is incorrect in relation to factors responsible for Hysteresis in Soil Moisture					
	Cha	racteristic Curve:				
	A)	Entrapped air during adsorption				
	B)	Ink bottle effect				
	C)	Same contact angles for advancing and receding water menisci				
	D)	Swelling and shrinking of soils underwetting and drying.				
28.	The	apparatus used for determining the liquid limit of soil is:				
	A)	Casagrande apparatus				
	B)	Tensiometer				
	C)	Pressure plate apparatus				
	D)	Standard Proctor Apparatus				
29.	The	tortuosity of porous media is always:				
	A)	Zero				
	B)	Greater than 1				
	C)	Less than 1				
	D)	Infinity				
30.	The	zone created in profile moisture distribution while infiltration, where soil wetness				
		reases sharply with depth is:				
	A)	Transmission zone				
	B)	Wetting Front				
	C)	Transition zone				
	D)	Wetting zone				
31.	Wat	er requirement is equal to:				
	A)	IR-ER-S				
	B)	IR-ER+S				
	C)	IR+ER-S				
	D)	IR+ER+S				
		IR= Irrigation requirement				
		ER= Effective rainfall				
		S= Soil profile contribution				
22	Th.	and the standard of the standa				
32.		permeability classification of soil was given by:				
	A)	O'Neal				
	B)	Atterberg				
	C)	Schofield Charitand Woodsoff				
	D)	Chepil and Woodruff				

33.	Wh	o stated that the maximum rate of evaporation from the soil surface is inversely					
-07177 (A)		proportional to the depth of the water table:					
	A)	Dalton					
	B)	Penman					
	C)	Thornthwaite					
	D)	Gardner					
34.	Swe	elling and shrinkage properties of soil can be determined by:					
	A)	COLE					
	B)	Potential volume charge					
	C)	Swell index					
	D)	All of the above					
35.	Cal	culate the total porosity of soil, if bulk density and particle density are 1.35g/cc and					
		5 g/cc, respectively:					
	A)	38.04%					
	B)	49.06%					
	C)	41.09%					
	D)						
36.	Cale	culate the total porosity of soil if the void ratio is 0.963:					
	A)	49.06%					
	B)	84.07%					
	C)	30.01%					
	D)	40.09%					
37.	Acc	ording to Poisuille's law, the discharge of water through a pipe is:					
	A)	Directly proportional to the square of length of pipe.					
	B)	Inversely proportional to the diameter of pipe					
	C)	Directly proportional to the square of radius of pipe					
	D)	Directly proportional to the fourth power of radius of pipe					
38.	In T	obacco, the correct chronological order of practices is:					
	A)	Topping – desucking –priming					
	B)	Desucking-topping-priming					
	C)	Priming -desucking - topping					
	D)	Priming – topping–desucking					
39.	Whi	ch is not an element of sustainable agriculture?					
	A)	Permaculture					
	B)	Agroforestry					
	C)	Multiple cropping					
	D)	Use of synthetic fertilizers					

	A)	Drupe					
	B)	Siliqua					
	C)	Caryopsis					
	D)	Grain					
41.		is regarded a	as Camel crop:				
	A)	Maize					
	B)	Sugarcane					
	C)	Wheat					
	D)	Sorghum	12				
42.	The	type of germination in	chickpea is:				
05757	A)	Hypogeal					
	B)	Epigeal					
	C	vivipary					
	D)	None of the above	1 2				
43.	Acc	cording to the Export A	ct 1963 (modified 2003), Govt. of	India, Basmati rice shou	ld		
	be:						
	i.	Grown in Indo-Gang					
	ii.	Exceptional in lengt	h after cooking.				
	iii.	Of high integrity and	high discreteness.				
	iv.	Distinctin aroma, tas	te and mouth feel.				
	A)	i and ii					
	B)	ii and iv					
	C)	iii and iv					
	D)	All of the above					
44.	The membranous fringe on the side of wheat leaf next to culm, which is a continuation of sheath through collar is known as:						
	A)	Auricle	-				
	B)	Ligule					
	C)	Leaf blade					
	D)	Leaf Sheath					
45.	The	The composition of wheat kernel (weight) is:					
	A)	Germ(Embryo)-2.5%	%, Bran-14%, Endosperm -83-87%	o o			
	B)	Germ(Embryo)-14%	, Bran-2.5%, Endosperm -83-87%	0			
	C)	Germ(Embryo)-83-8	7%, Bran-14%, Endosperm -2.5%	0			
	D)	Germ(Embryo)-2.5%	%, Bran-83-87%, Endosperm -14%	9			
(30)	(A)		(9)	[P.T.0	Э.		
7.1							

40. The fruit of rapeseed and mustard is known as:

46.	Match the columns:						
	a)	Rice	i)	Co 0238 (Karan 4)			
	b)	Soybean	ii)	RCH 1			
	c)	Sugarcane	iii)	PS 1347			
	d)	Rapeseed and mustard	iv)	Sandhya			
	A)	A(ii), B (iv), C (i), D(iii)					
	B)	A(iv), B (iii), C (i), D(ii)					
	C)	A(iii), B (iv), C (ii), D(i)					
	D)	A(iii), B(iv), C(i), D(ii)					
47.				e maintenance of soil fertility and plant the desired productivity through:			
	A)	Integration of fertilizers supp	500 (E) (E)				
	B)			nts (organic, inorganic and biological)			
	C)	Integration of all possible so	urces of nutrie	nts (organic and biological)			
	D)	Integration of all possible so	urces of nutrie	nts with pesticides			
48.	Inte	Integrated farming system is a sustainable agricultural system that integrates:					
	A)	Different agricultural crops on a farm:					
	B)	Agricultural, horticultural and forestry crops					
	C)	livestock, crop production, fish, poultry, tree crops, plantation crops and other systems					
	D)	Chemical fertilizers, organic	manures and b	piological nutrient sources			
49.	Con	Contingent planning means:					
	A)	Change in normal crop planning to meet market demand					
	B)	Change in normal crop planning to meet weather abnormalities.					
	C)	Change in normal crop planning to meet disease free period.					
	D)	None of the above.					
50.	The	The symbiotic association between fungi and algae is referred as:					
	A)	Mycorrhiza					
	B)	Lichen					
	C)	Phycobiont					
	D)	Mycobiont	6				
51.		lm forming anti-transpirant is/a	are:				
	A)	Hexadeconal					
	B)	Cycocel					
	C)	Kaoline					
	D)	All of the above					
(30)	(A)		(10)				
(30)	(4)		(10)				

(A)		(11)	[P.T.O.			
D)	All of the above	2014/2016 TEST (2015) 40 67 J. T. STEEDER				
C)						
B)		TO MINE NOT IN CONTROL 아이지를 다 먹었다면 되었다면 하다는 사람들이다.				
A)	Absorption of long w	ave radiation by atmosphere				
Gre	enhouse effect is:					
D)	myisiole					
	040 0400 0 <del>4</del> 700 0.5					
1						
2000						
- 는 맛있는데 할 것 같은 것이 맛있다는 것이라. 19 이번에 가면 보면 되면 가면 가지만 20 00 4.64500 (5.2000) 이 나이에 가지나 하나 보다 이 이 때 50 00 00 00 00 00 00 00 00 00 00 00 00						
Resed on duration, driest climate is the characteristic feature of which droughts						
D)	None of the above					
C)	Heterotrophs					
B)	Chemooautotrophs					
A)	Photoautotrophs					
Fun	Fungi are:					
	50 OF 3550					
Y 523000	- 1 0.0 ( C.					
37.5355						
200						
		armen of me men (m).				
Mil	Milli-Watershed is characterized by the area (ha):					
D)	Solution					
300000						
211,000						
0.00	Surface access					
	ing wind erosion, the	particle size larger than 0.5 mm a	ne moved by the process			
D	ing raind argains, the	nertials size larger than 0.5 mm.	re moved by the econom			
D)	Natural farming					
C)	Dry farming					
B)	Dryland farming					
A)	Rainfed farming					
Cult	tivation of crops in regi	ions receiving more than 1150 mm a	nnual rainfall is called as:			
D)	PET-P					
C)	P-PET					
B)	PET-P/PET					
A)	P-PET/PET					
Mo	sture deficit index is c	alculated by:				
	A) B) C) D Ulf A) B) C) D Ulf A) B) C) D Bas A) B) C) D Gree A) B) C) D G	A) P-PET/PET B) PET-P/PET C) P-PET D) PET-P  Cultivation of crops in reginal farming A) Rainfed farming B) Dryland farming C) Dry farming D) Natural farming During wind erosion, the of: A) Surface creep B) Suspension C) Saltation D) Solution  Milli-Watershed is charact A) 10,000-50,000 B) 1,000-10,000 C) 100-1,000 C) 100-1,000 D) 1-100  Fungi are: A) Photoautotrophs B) Chemooautotrophs C) Heterotrophs C) Heterotrophs D) None of the above  Based on duration, driest A) Permanent B) Seasonal C) Contigent D) Invisible  Greenhouse effect is: A) Absorption of long w B) Absorption of short-C) Absorption of UV ra D) All of the above	A) P-PET/PET B) PET-P/PET C) P-PET D) PET-P  Cultivation of crops in regions receiving more than 1150 mm at A) Rainfed farming B) Dryland farming C) Dry farming D) Natural farming  During wind erosion, the particle size larger than 0.5 mm at of: A) Surface creep B) Suspension C) Saltation D) Solution  Milli-Watershed is characterized by the area (ha): A) 10,000-50,000 B) 1,000-10,000 C) 100-1,000 D) 1-100  Fungi are: A) Photoautotrophs B) Chemocautotrophs C) Heterotrophs D) None of the above  Based on duration, driest climate is the characteristic feature A) Permanent B) Seasonal C) Contigent D) Invisible  Greenhouse effect is: A) Absorption of long wave radiation by atmosphere B) Absorption of short-wave radiation by atmosphere C) Absorption of UV radiation by atmosphere D) All of the above			

- 59. Pressure in the atmosphere:
  - A) decreases with height
  - B) no change with height
  - C) increases with height
  - D) decreases with an average of 30 mb per 30 m height
- 60. Inversion is:
  - A) Increase in temperature with height
  - B) Decrease in temperature with height
  - C) Generally, there are no changes
  - D) None of the above
- 61. Calculate the plant population/m2, if the spacing of Crop is 20×20 cm:
  - A) 25 plants
  - B) 2,50,000plants
  - C) 250 plants
  - D) 2500
- 62. An annual weed commonly found in rice field is:
  - A) Cynodon dactylon
  - B) Cyperus rotundus
  - C) Echinochloa crusgalli
  - D) Phalaris minor
- 63. A weed that disseminates by means of a special balloon like structure formed out of the persistent calyx is:
  - A) Convolvulus arvensis
  - B) Physalis minima
  - C) Solanum nigrum
  - D) Phalaris minor
- 64. Read the following statements and choose the correct answer(s)

Statement I: The weed density above which crop yield reduces significantly is called competitive threshold.

Statement II: The time span when weeding results in maximum return is called as economic threshold.

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

- A) Statement I is true but Statement II is false
- B) Statement I is false but Statement II is true
- Both statements I and II are false
- D) Both statements I and II are true

65,	Eff	cient utilization of CO, by	type weed	s contribute towards rapid growth:			
	A)	C4					
	B)	C3					
	C)	CAM					
	D)	All of the above.					
66.	Bio	agent for control of Partheni	um hysteropho	prus:			
	A)	Bactra verutana					
	B)	Zygogramma bicolorata					
	C)	Chrysolira					
	D)	Flee beetle					
67.	Rep	eated application of flames to	above ground	weed parts is called:			
	A)	Flaming					
	B)	Searing					
	C)	Burning					
	D)	None of the above					
68.	The	The term, Allelopathy was first introduced by:					
	A)	Hans Molisch					
	B)	Rice					
	C)	Decondole					
	D)	Democritus					
69.	Ma	atch the columns:					
	a)	Selective herbicide	i)	Phenoxy			
	b)	Non-Selective herbicide	ii)	Devine			
	c)	Bioherbicide	iii)	Fluchloralin			
	d)	Plant growth regulator	iv)	Glyphosate			
	A)	a(ii), b (iv), c (i), d(iii)		2 mm			
	B)	a(iv), b (iii), c (i), d(ii)					
	C)	a(iii), b (iv), c (ii), d(i)					
	D)	a(iii), b (iv), c (i), d(ii)					
70.		An adjuvant is added in aherbicidal formulation to modify herbicidal activity or application characteristics with objectives:					
	A)	improve shelf life					
	B)	improve toxicity on target pl	ants				
	C)	improve herbicide selectivity to the non-target plant					
	D)	All of the above		(a constant (g) s)			
522	140200-1		100-201	mm.c.			
(30)	(A)		(13)	[P.T.O.			

	A)	Glyphosate
	B)	2,4-D
	C)	MCPA
	D)	Atrazine
72.	Succ	cessful weed management is based on:
	a)	Knowledge on weed biology
	b)	Survey on the nature of weed problem
	c)	Whole farm planning
	d)	Removal of weeds before flowering
	A)	A and B
	B)	B and D
	C)	C and D
	D)	All of the above
73.	Sele	ectivity of atrazine and simazine in maize is due to:
,,,,	A)	Metabolism
	B)	Conjugation
	C)	Reverse metabolism
	D)	Rapid translocation
22		
/4.		BARD was established on:
		12 July 1980
	B)	12 July 1982
	C)	12 July 1979
	D)	12 July 1984
75.	Firs	t KVK in India was established in Pondichery in the year:
	A)	1967
	B)	1982
	C)	1972
	D)	1974
		24.6

71. Which herbicide is amino acid synthesis inhibitor:

76.	Most weather phenomena like clouds, rain, mist, fog dew etc. occur in which layer:						
	A)	Troposphere					
	B)	Stratosphere					
	C)	Mesosphere					
	D)	Thermosphere					
77.	Mat	Match the columns:					
	a)	Troposphere	1	Warm layer above the mesosphere with significant temperature inversion			
	b)	Stratosphere	2	Coldest region in the atmosphere with temperature reaching -95°C			
	c)	Mesosphere	3.	Temperature generally decreases with height at constant rate			
	d)	Thermosphere	4.	Increase in temperature with height.			
	A)	a (2), b(4), c(3), d (1)					
	B)	a (1), b(2), c(3), d (4)					
	C)	a (4), b(3), c(2), d (1)					
	D)	a (3), b(4), c(2), d (1)					
78.	The standard lapse rate for troposphere is:						
	A)	6.5°F per km					
	B)	6.5°C per km					
	C)	10°C per km					
	D)	None of the above					
79.	Example of short day plant:						
	A)	Wheat					
	B)	Barley					
	C)	Cotton					
	D)	Sugarcane					

80.	The	rmal conductivity is highest in:			
	A)	clay soils			
	B)	organic soils			
	C)	sandy soils			
	D)	loamy soil			
81.	Cun A) B)	nulonimbus cloud comes under: Higher level clouds Lower level clouds			
	C)	Middle level clouds			
	D)	Clouds of vertical development			
82.		t, small pellets with a diameter of less than 5 mm formed when supercooled water plets (at a temperature below 32°F) freeze onto a snow crystal by riming are called			
	A)	Graupel			
	B)	Hail			
	C)	Sleet			
	D)	Drizzle.			
83.		v explainingthe emissivity and absorptivity is equal for all black bodies at a given relength is known as			
	A)	Vant Hoff's Law			
	B)	Plank's Law			
	C)	Kirchoff's Law			
	D)	Boyle's Law			
84.	Nargis is a:				
	A)	Cloud			
	B)	Tsunami			
	C)	Cyclone			
	D)	Mountain			

85.	The	duration of medium rang	e weather forecasting is:		
0.00	A)	Few hours to one day			
	B)	24 hours to < 3 days			
	C)	3-10 days			
	D)	None of the above			
86.	Clo	udiness is measured in ter	rms of :		
	A)	Oktas			
	B)	Pentas			
	C)	Deciles			
	D)	Percentiles			
87.	The	measurement of the heig	ht of a cloud is done by devic	e:	
	A)	Cloudimeter			
	B)	Ceilometer		3.	
	C)	Psychrometer			
	D)	Peizometer			
88.	NIC	NICRA is:			
	A)	National Innovations	s for Climate Resilient Agricu	lture	
	B)	National Institute for	Climate Resilient Agricultur	re	
	C)	National Initiatives for	or Climate Resilient Agronor	ny	
	D)	National Initiatives for	or Climate Smart Agriculture		
89.		In farm management, the technological relation between quantities of physical inputs and quantities of the output of goods is called:			
	A)	Production Function			
	B)	Output efficiency			
	C)	Physical Productivity			
	D)	None of these			
90.		estimate of all income an nate of its profitability is	d expenses associated with called:	a specific enterprise and an	
	A)	Finance budgeting			
	B)	Complete budgeting			
	C)	Enterprise budgeting			
	D)	Incomplete budgeting			
(30)	(A)		(17)	[P.T.O.	

(30)	(A)	(18)
	D)	Their efforts focus mainly on vegetable gardens and chickens; men are involved with cereal crops and larger livestock
	C)	They weed the fields, but never plough or plant them, as only men are strong enough for those activities
	B)	They play a central role as producers of food, managers of natural resources, income earners and caretakers of household nutrition
	A)	Their main role is to prepare meals
95.	Wh	at role do women play in food security?
	D)	Commission for Agricultural Costs and Prices
	C)	NITIAayog
	B)	Ministry of Agriculture and Farmers' Welfare
	A)	NABARD
94.		o among the following recommends the minimum support price (MSP) and issue e for paddy and wheat?
	D)	Operational efficiency
	C)	Allocation efficiency
	B)	Technical efficiency
	A)	Market efficiency
93.	opp	ability possessed by markets to include information that offers the maximum possible ortunities for traders to buy and sell commodities without incurring additional saction costs refers to:
	D)	Gaung
	C) D)	Grading
	B)	Transportation Processing
	A)	Storage
92.		ch of the following market functions creates form utility to commodities/ products?
	D)	Total variable cost
	C)	Average fixed cost
	B)	Marginal cost
	A)	Average variable cost
91.	The	change in cost associated with an increase of one unit of output is referred to as:

96.	combination):				
	A)	One-way communication, weak encoding and audience created content			
	B) C)	One-way communication, weak encoding and stress on the speaker One-way communication, Ignorance of noise, no feedback and stress on the speaker			
	D)	One-way communication, ignorance of noise and audience created content			
97.		ture of pollen from a flower to fertilize the same flower or other flowers on the same			
	A)	Self-incompatibility			
	B)	Male sterility			
	C)	Apomixis			
	D)	None of the above			
98.	Improvement in the mean genotypic value of the selected families over that of the base population is known as :				
	A)	Heritability			
	B)	Genetic advance under selection			
	C)	Selection differential			
	D)	Segregation			
99.		hange of strictly homologous segments between non-sister chromatids of homologous omosomes is known as			
	A)	Translocation			
	B)	Duplication			
	C)	Crossing over			
	D)	Transduction			
100.	Sem	ni-conservative model of DNA replication was discovered by			
	A)	Watson and Crick			
	B)	J.H. Taylor			
	C)	Meselson and Stahl			
	D)	Rosalind Franklin			

101.		ch of the following molecular marker is produced by partial sequencing of cDNA ary clones:
	A)	Restriction fragment length polymorphism (RFLP)
	B)	Random amplified polymorphic DNA (RAPD)
	C)	Simple sequence Repeats (SSR)
	D)	Expressed sequence tags (EST)
102.	Whi	ch of the following mutagen cause frame-shift mutations:
	A)	Base analogues
	B)	Alkylating agents
	C)	Deamination agents
	D)	Acridine dyes
103.		rategy to isolate the two parental inbreds of any outstanding heterozygous/hybrid t is known as:
	A)	Reverse breeding
	B)	Reverse genetics
	C)	Convergent improvement
	D)	Pedigree selection
104.		ich one of the following syndrome is produced by trisomic condition for the emosome 13 in humans:
	A)	Down's syndrome
	B)	Patau's syndrome
	C)	Edward's syndrome
	D)	Klinefelter's syndrome
105.	Gen	etic variability that is available for selection to act on is known as:
	A)	Free genetic variability
	B)	Potential genetic variability
	C)	Heterozygotic potential variability
	D)	Homozygotic potential variability
(30)	(A)	(20)

106.	Wh	ich of the following is not true about a clone?:
	A)	Identical in genotype
	B)	Lack of genetic variation
	C)	They are immortal
	D)	They show no inbreeding depression
107.		en pollen from a flower of one plant falls onto the stigmas of the other flowers on same plant is known as:
	A)	Autogamy
	B) C) D)	Allogamy Geitonogamy None of the above
108.	The	first segment of an insect's alimentary canal is known as:
	A)	Foregut
	B)	Midgut
	C)	Hindgut
	D)	Mesentron
109.	The	third phase of insect heartbeat is known as:
	A)	Systole
	B)	Diastole
	C)	Diastasis
	D)	Peristalsis
110.	The	alimentary canal is aerostatic in function in case of:
	A)	Odonata
	B)	Ephemeroptera
	C)	Diptera
	D)	Coleoptera

(21)

(30) (A)

[P.T.O.

111. Re	nue pheromones are secreted by:
A)	Honey bee
B)	Gram pod borer
C)	Aphids
D)	Silkworm
112. W	ch layer of integument is a prime example of natural biocomposite?:
A)	Epicuticle
B)	Procuticle
C)	Basement membrane
D)	Cement layer
	ic oxide, a special kind of probable neuromodulator was reported for the first time which insect?
A)	Locust
B)	Silkworm
C)	Cockroach
D)	Aphids
A)	Expressivity
B)	Penetrance
C)	Multiple allele
D)	None of the above
115. Th	Black rust disease of wheat is caused by:
A)	Puccinia graminis
B)	Xanthomonas graminis
(C)	Puccinia recondite
D)	None of these
116. Th	Tungro virus disease of rice is transmitted by:
A)	Leafminor
B)	Green leaf hopper
C)	Gall midge
D)	Brown plant hopper
(30) (A)	(22)

117.	The	World	soil	day	is c	elebrated	every	year	on:
------	-----	-------	------	-----	------	-----------	-------	------	-----

- A) 5<sup>th</sup> November
- B) 5th December
- C) 5th July
- D) 5th September

#### 118. Soybean seeds contain:

- A) 20% oil and 20% protein
- B) 40% oil and 20% protein
- C) 40% oil and 40% protein
- D) 20% oil and 40% protein

#### 119. Match the columns:

- a) Endotrophic mycorrhizae
- b) Ectotrophic mycorrhizae
- c) Bio-fertilizer
- d) P- solubilizer
- A) a(iii), b(i), c(iv), d(ii)
- B) a(iv), b (iii), c (i), d(ii)
- C) a(iii), b (iv), c (ii), d(i)
- D) a(iii), b (iv), c (i), d(ii)

- i) Boletus
- ii) Pseudomonas spp
- iii) Glomus
- iv) Rhizobium

#### 120. Zonate leaf spot in sorghum is caused by:

- A) Gleocercospora sorghi
- B) Sphacelia sorghi
- C) Sphacelotheca criuenta
- D) Puccinia purpurea

# ROUGH WORK



(30) (A) (

Booklet Serial No.

216953

Test Booklet Series

# TEST BOOKLET COMPUTER APPLICATIONS

Written Test - 2023

(36)



Time Allowed: Two Hours

Maximum Marks: 120

#### INSTRUCTIONS

- IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET DOES NOT HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS, ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
- Please note that it is the candidate's responsibility to encode and fill in the Roll Number and Test Booklet Series Code A, B, C or D carefully and without any omission or discrepancy at the appropriate places in the OMR Answer /Response Sheet. Any omission/discrepancy will render the Response Sheet liable for rejection.
- You have to enter your Roll Number on the Test Booklet in the Box provided alongside.

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- 4. This Test booklet contains 120 items (questions). Each item comprises of four responses (answers). You will select the response which you want to mark on the Answer Sheet/Response Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose ONLY ONE response for each item.
- You have to mark all your responses ONLY on the separate Answer /Response Sheet provided. See directions in the Response Sheet.
- 6. All items carry equal marks.
- Before you proceed to mark in the Answer /Response Sheet, the response to various items in the Test Booklet, you have to fill in some particulars in the Answer /Response Sheet as per instructions sent to you with your Admission Certificate.
- 8. After you have completed filling in all your responses on the Response Sheet and the examination has concluded, you should hand over to the Invigilator only the Answer /Response Sheet. You are permitted to take away with you the Test Booklet and Candidate's Copy of the Response Sheet.
- Sheets for rough work are appended in the Test Booklet at the end.
- While writing Centre, Subject and Roll No. on the top of the Answer Sheet/Response Sheet in appropriate boxes use "ONLY BALL POINT PEN".
- 11. Penalty for wrong answers:

# THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY THE CANDIDATE IN THE WRITTEN TEST (OBJECTIVE TYPE QUESTIONS PAPERS).

- (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, (0.25) of the marks assigned to that question will be deducted as penalty.
- (ii) If a candidate gives more than one answer, it will be treated as a wrong answer even if one of the given answers happens to be correct and there will be same penalty as above for that question.
- (iii) If a question is left blank, i.e., no answer is given by the candidate, there will be no penalty for that question.

SE

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO

1.	Compute the result of arithmetic addition of -7 and -11 using signed 2's Complement representation and 8 bit representation?								
	A)	00010010							
	B)	11101110							
	C)	00010001							
	D)	11110101	70						
2.	What will be the Gray Code of (01110110)								
	A)	10001001							
	B)	10011010							
	C)	01001101							
	D)	10001010							
3.	An	An Index is Clustered if							
	A)	It is on a set of fields that form a candidate key							
	B)	It is on a set of fields that include the primary key							
	C)	The data records of the file are organized in the same order as the data entries of the Index							
	D)	The data records of the file are not organized in the so of the Index	ame order as the data entries						
4.	Student and Courses enrolled is an example of								
	A)	One-to-One Relationship							
	B)	One-to-Many Relationship	14						
	C)	Many-to-One Relationship							
	D)	Many-to-Many Relationship							
5.	Write the instruction in the Basic Computer in order to set the Z Flip Flop to 1?								
	A)	Z<- 1							
	B)	Z = I							
	C)	CLZ, CMZ							
	D)	CMZ							
(36)	(A)	(3)	[P.T.O.						

- Convert the following arithmetic expression from Infix to Reverse Polish Notation. A\*[B+C\*(D+E)] F\*(G+H)
  - A) ABCDE \*+\*+FGH+\*/
  - B) ABCDE+\*+\*FGH+\*/
  - C) ABCDE+\*+\*FGH\*+/
  - D) ABCDE \* + \*+ FGH \*/+
- 7. The Memory Unit of Computer has 256K words of 32 bits each. The computer has an instruction format with four fields: An operation code field, A mode field to specify one of seven addressing modes, A register address field to specify one of 60 processor registers and a memory address. State the instruction format and the number of bits in each field if the instruction is in one Memory Word.
  - A) Address bits: 3, Addressing Mode bits: 18, Register address field bits: 5, op code bits: 6
  - B) Address bits: 17, Addressing Mode bits: 5, Register address field bits: 5, op code bits: 5
  - C) Address bits: 5, Addressing Mode bits: 17, Register address field bits: 5, op code bits: 5
  - D) Address bits: 18, Addressing Mode bits: 3, Register address field bits: 6, op code bits: 5
- 8. Any given Boolean Expression can be implemented by using
  - A) Only NAND gates
  - B) Only NOR gates
  - C) Only OR gates
  - Only AND gates
- The Instruction is stored at location 300 with its address field at location 301. The address
  field has the value 400. An index Register R1 contains number 200. Evaluate the effective
  address when the addressing mode of the instruction is Direct, Immediate, Relative,

Register Indirect

- A) Direct: 400, Immediate:301, Relative:702, Register indirect:200
- B) Direct: 400, Immediate:301, Relative:701, Register indirect:200
- C) Direct: 400, Immediate:301, Relative:300, Register indirect:500
- D) Direct: 301, Immediate: 300, relative: 700, Register Indirect: 400

10.	Whi	ch of the following statement about Binary Tree is Not True
	A)	Degree of any given must not exceed two.
	B)	Binary tree cannot contain zero nodes.
	C)	Subtree of binary tree is called left subtree and right subtree
	D)	None of the Above
11.	Proc	sider a computer with eight floating point pipeline Processors. Suppose that each sessor uses a Cycle Time of 80 ns. How long will it take to perform 800 floating at operations?
	A)	800 ns
	B)	640 ns
	C)	8000 ns
	D)	6400 ns
12.		at does the SQL statement SELECT SUBSTR ('abcdefghij' INSTR ('123321234', ,2),2) FROM DUAL Print?
	A)	gh
	B)	23
	C)	bc
	D)	ab
13.		n entity relationship, $y$ is the dominant entity and $x$ is a subordinate entity. Which of following is/are correct?
	A)	operationally, if y is deleted, so is x
	B)	x is existence dependent on y
	C)	operationally, if $x$ is deleted, so is $y$
	D)	operationally, if $x$ is deleted, $y$ remains the same
14.	The	Direct Memory Access is technique used to transfer data
	bety	veen:
	A)	CPU and Fast storage device
	B)	CPU and I/O device
	C)	I/O device and fast storage device
	D)	None of these
(36)	(A)	(5) [P.T.O.

A) B) 16 C) 32 D) 16. The Access time of a Cache memory is 100 ns and that of Main memory is 1000 ns. It is estimated that 70% of memory request are for read and the remaining 30% for write. The hit ratio for read access only is 0.8. A write through procedure is used then what is the average access time of the system considering only memory read cycle and for both read and write requests? A) 200 ns and 360 ns B) 300 ns and 510 ns C) 400 ns and 720 ns D) None of these 17. What is the transfer rate of an eight track magnetic tape whose speed is 120 inches per second and whose density is 1600 bits per inch? A) 1,92,000 character B) 15,36,000 character C) 24,000 characters D) None of these. 18. For the sequence ABCDBEDACECE count the number of miss if the LRU Algorithm is used for a four way set associative Cache Memory has four words in each set. Start ABCE as the initial four words, with word A being the least recently used. A) 7 B) 3 C) 4 D) 0 19. An address space is specified by 24 bits and the corresponding memory space by 16 bits. How many words are there in address space and memory space? If the page consists of 2 K words, how many pages and blocks are there in the system A) 16M, 64K, 8K, 32 B) 16K, 64M, 8, 32K C) 16K, 64K, 8K, 32 D) None of these (36) (A) (6)

15. How many 64\*8 RAM chips are needed to provide a memory capacity of 2048 bytes?

```
20. What would be the output of following program in C?
     main()
           int x = 50;
                     int x = 10;
                     printf("\n%d",x)
     A)
          50
     B)
           10
          Garbage Value
     C)
          None of the above
     D)
21. Find the error in the below code
     main()
     {
           extern int i;
           i = 20;
           printf("%d",sizeof(i));
     }
          The value of i is not defined
     A)
     B)
          Syntax of print f is incorrect
          Type of compiler has not been mentioned
     C)
     D)
          extern variable cannot be declared inside main
22. What will be the output of following code in C?
     main()
     1
          int a[5] = \{20,30\};
          printf("\n %d
     %d",a[2],a[3])

 A) Garbage value

     B)
          30 30
          20 30
     C)
     D)
          0 0
```

[P.T.O.

23.	If a	=9, b=5 and c=3, then the expression (a- $a/b * b % c$ ) > a % b % c							
	A)	True							
	B)	False							
	C)	Invalid							
	D)	0							
24.	The	The body of the following for loop							
	For	(putchar('a'); putchar(0);							
	pute	char('c'))							
	pute	char('b'); will be executed							
	A)	0 times							
	B)	1 time							
	C)	infinitely many times							
	D)	will not be executed because of syntax error							
25.	Wh	ich two files are used during operation of the DBMS?							
	A)	Query language and utilities							
	B)	Data manipulation language and query language							
	C)	Data dictionary and transaction log							
	D)	Data dictionary and query language							
26.	The	following statement printf( "%f", 9/5); prints							
	A)	1.8							
	B)	1.0							
	C)	2.0							
المراجع	D)	None of the above							
(36)	(A)	(8)							

27.	Wh	at would be the output of following program?
	mai	nO
	{	8
	int '	*p1, x=10;
	voic	i*p2;
	p1=	=&x
	p2=	-&x
	p1=	p2;
	p2 =	=p1;
	}	
	A)	Warning: Suspicious assignment of x to p2
	B)	Warning: Variable and Pointer type should be same
	C)	Error
18.	D)	No error
28.	The is	maximum number of temporary variables needed to swap the contents of two variables
		1
	A)	
	B)	2
	C)	3
	D)	0
29.		ich of the following syntax is used to overload post increment ++ operator in C++?
	A)	class_name operator++()
		0
	B)	class_name operator++(int)
		0
	C)	None of these
	D)	All of the above
30.	Whi	ich of the following statement is not true in C++?
	A)	Constructors should be always public.
	B)	Constructor must not return the value
	C)	Constructors cannot be overloaded.
	D)	Constructors can be inherited.
(36)	(A)	(9) [P.T.O.

31. What would be the output of following program in c++? #include<iostream.h>class A private: int x; public: A(ints) X = S: void display() cout<<" value of x = " << x;}; void main() A obj1(10); A obj2; obj1.display(); obj2.display(); } value of x = 10 value of x = 0A) value of x = 10B) C) Error value of x = 10 value of x = 10D)

- 32. Which of the following types of inheritance can suffer from ambiguity problem?
  - A) Single Inheritance
  - B) Multiple inheritance
  - C) Multilevel inheritance
  - Hierarchical Inheritance
- 33. Which of the following statement is true in C++?
  - A) Creating a derived class from a base class does not requires fundamental change to the base class
  - B) It is illegal to make objects of one class as members of another class
  - The size of the derived class object is equal to the sum of sizes of data members in base class and the derived class.
  - If a base class and a derived class each include a member function with the same name, the member function of the base class will be called by an object of the derived class.

34. What would be the output of following program in C++? #include<iostream.h> class base protected: void print() cout << "JKPSC"; 1: class derived: public base public: void show() print(); ); void main() base b1; b1.print(); derived d1; d1.show(); JKPSC JKPSC B) JKPSC C) warning protected cannot be inherited. D) Error

35.	beir	ng 20 ns. If on		generated for e	puter with averag very 106 memory		
	A)	21 ns					
	B)	30 ns					
	C)	23 ns					
	D)	35 ns					
36.					h executes on diff ge-based commu		
	A)	Local Proce	dure Call				
	B)	Inter Proces	ss Communica	tion			
	C)	Remote Pro	cedure Call	#			
	D)	Remote Mad	chine Invocation	on			
		- 3					
37.				10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	s each requiring ch that no deadlo		
	A)	3					
	B)	4					
	C)	5	•				
	D)	6					
38.	Ata	particular tin	ne, the value o	f counting sema	phore is 10. It wi	ll become 7 af	ter
	A)	3 V operatio	ons				
	B)	3 P operatio	ons				
	C)	5 V operatio	ons and 2 P ope	erations			
	D)	13 P operati	ions and 10 V	operations			
39.	The	best-fit, first-	fit and worst-	fit algorithms ca	n be used for		
	A)	Contiguous	allocation of n	nemory			*
	B)	linked alloca	ation of memo	ry			
	C)	indexed allo	ocation of mem	nory			
	D)	all of the abo	ove	161			
(36)	(A)			(12)			
1/22							
	T.						

40.	In round-robin CPU scheduling, as the time quantum is increased, the average turnaround time								
	A)	Increases							
	B)	Decreases							
	C)	remains constant							
	D)	varies irregularly							
41.	Wha	nat is the correct matching for the fol	lowing pa	airs?					
	a)	Disk Scheduling	1)	Round Robin					
	b)	Batch Processing	2)	SCAN					
	c)	Time Sharing	3)	LIFO					
	d)	Interrupt Processing	4)	FIFO					
	A)	a-3, b-4, c-2, d-1							
	B)	a-4, b-3, c-2, d-1							
	C)	a-2, b-4, c-1, d-3							
	D)	a-2, b-1, c-4, d-3							
42.	Thr	rashing							
	A)	A) Reduces page I/O							
	B)	Decreases the degree of multiprogramming							
	C)	Implies excessive page I/O							
	D)	Improves the system performance	e						
43.	Wh	hat is the disk bandwidth?							
	A)	the total number of bytes transferred							
	B)	total time between the first request for service and the completion on the last transfer							
	C)	the total number of bytes transferred divided by the total time between the first request for service and the completion on the last transfer							
	D)	none of the mentioned							

Wh	ich of the following instruction is not valid?							
A)	MOVAX, BX							
B)	MOV DS, 5000H							
C)	MOVAX, 5000H							
D)	PUSHAX							
If e	If every non-key attribute is functionally dependent on the primary key, then the relation will be in							
A)	1NF							
B)	2NF							
C)	3NF							
D)	4NF							
Wor	rking set model for page replacement is based on the assumption of							
A)	globalization							
B)	random access							
C)	modularity							
D)	locality							
	The computational technique used to compute the disk storage address of individual records is called							
A)	Bubble memory							
B)	Key fielding							
C)	Dynamic reallocation							
D)	Hashing							
McC	Call proposed which of the following quality factors?							
A)	Correctness, reliability, usability, integrity, efficiency							
B)	Maintainability, testability, flexibility							
C)	Portability, reusability, interoperability							
D)	None of the above							
(A)	(14)							
	A) B) C) D) If e will A) B) C) D) The record A) B) C) D) McC A) B) C) D)							

49.	RAI	D level 3 supports a lower number of I/O s per second, because	
	A)	Every disk has to participate in every I/O request	
	B)	Only one disk participates per I/O request	
	C)	I/O cycle consumes a lot of CPU time	
	D)	All of the mentioned	
50.	The	segment base contains the	
	A)	starting logical address of the segment /process	
	B)	starting physical address of the segment in memory	
	C)	segment length	
	D)	none of the above	
51.		are often used where very rapid access is required, who	ere fixed length
	reco	rds are used, and where records are always accessed one at a time.	
	A)	Direct files	
	B)	Indexed Sequential files	
	C)	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	
	D)	Sequential files	
52.	If th	e kernel is single threaded, then any user level thread performing a	olocking system
	A)	cause the entire process to run along with the other threads	
	B)	cause the thread to block with the other threads running	
	C)		ilable to run
	D)	none of the mentioned	
53.	Mul	tithreading on a multi - CPU machine	
	A)	decreases concurrency	
	B)	increases concurrency	
		doesn't affect the concurrency	
	D)	can increase or decrease the concurrency	
54.	Wit	h limit registers and relocation, each logical address must be	the limit
	regi	ster.	
	A)	Not equal to	
	B)	Equal to	
	C)	Greater than	
	D)	less than	
55.	Tim	e Complexity of a computer program includes-	
	A)	Compile Time Only	
	B)	Run Time Only	
	C)	Both compile time and run time	
	D)	None of the Above	
(36)	(A)	(15)	[P.T.O.

(36) (A)

56.	Consider the following set of functional dependencies on the schema						
	575.05	(A,B,C) $a \to bc$					
	a – b –						
	a -						
		→ C					
		canonical cover for this set is					
		$a \rightarrow bc$ and $b \rightarrow c$					
	B)	$a \rightarrow bc$ and $ab \rightarrow c$					
	C)	$a \rightarrow bc$ and $a \rightarrow b$					
	D)	$a \rightarrow b$ and $b \rightarrow c$					
57.	Wh	ich of the following statement about singly linked list is not true					
	A)	The nodes of the list dose not reside in sequential location.					
	B)	Insertion and Deletion of ordered lists in singly linked list are less time consuming compare to array					
	C)	The location of the nodes of linked list will not change on different runs of the program.					
	D)	None of the Above					
58.	A weather forecasting computation requires 240 billion floating point operations. The problem is process in a super computer that can perform 100 mega flops. How long it take to do these calculations.						
	A)	32 minutes					
	B)	40 minutes					
	C)	42 minutes					
	D)	48 minutes					
59.	Wh	ich of the Following Statement is False with respect to tree traversal					
	A)	In postorder, we visit a node after we have traversed its left and right subtree					
	B)	In preorder the visit of a node is done before the traversal of left and right subtrees					
	C)	In Inorder, we traverse left subtree then node and then right subtree.					
	D)	None of the Above					
60.		For a complete directed and undirected graph with 'n' vertices, maximum number of edges respectively will be-					
	A)	n(n - 1)/2 and n(n - 1)					
	B)	n(n - 1) and n(n - 1)/2					
	C)	n(n - 1) and n(n - 1)					

(16)

None of the above

(36) (A)

61.	Tre	e is best defined as :
1	A)	Cyclic graph
	B)	Acyclic graph
	C)	Connected acyclic graph
	D)	None of the above
62.	Fin	d the correct sentence with respect to the Sequential search and Binary search-
	A)	Order of the key fields required is relevant in case of sequential search but not binary search.
	B)	Order of the key fields required is relevant in case of binary search but not sequential search.
	C)	Both of the above
	D)	None of the above
63.	The	e average time complexity of the Quick Sort Algorithm is
	A)	O(N)
	B)	O(N log N)
	C)	O(log N)
	D)	None of the above
64.	Wh	ile construction a data dictionary, the analyst considers:
	A)	Each data flow in the DFD has one data dictionary entry
	B)	Definitions must be readily accessible by name
	C)	There should be no redundancy in the data definition
	D)	None of the above
65.		mit testing of a module, it is found for a set of test data at the maximum 90% of the e alone were tested with the probability of success 0.9. The reliability of the module
	A)	Atleast greater than 0.9
	B)	Atmost 0.81
	C)	Equal to 0.9
	D)	Atleast 1/0.81
(36)	(A)	(17) <sup>(1)</sup> [P.T.O.

	A)	Breadth-First-Search
	B)	Depth-First-Search
	C)	Best-First-Search
	D)	Hill climbing
67.	Wh	at is the hash function used in the division method?
	A)	Hash(k) = k/m
	B)	$Hash(k) = k \mod m$
	C)	Hash(k) = m/k
	D)	$Hash(k) = m \mod k$
68.	Anl	Eulerian path is a path in a graph that visits every exactly once.
	A)	vertex
	B)	edge
	C)	path
	D)	circuit
69.	Poir	nters can be dangerous-
	A)	It may access out of range memory.
	B)	It may reference to a NULL memory location.
	C)	Both A and B
	D)	None of the above
70.	Wh	at is the primary objective of the Traveling Salesman Problem (TSP)?
	A)	Maximizing profit while travelling
	B)	Finding the shortest path that visits all cities exactly once and returns to the starting city
	C)	Finding the longest path that visits all cities
	D)	Minimizing travel time
7I.	Wh	at are the necessary condition for a Tree to be a heap?
	A)	The tree is a complete tree
	B)	Value at the root must be greater or smaller than the value of the root
	C)	Both A and B
	D)	None of the Above
(36)	(A)	(18)

66. A\* algorithm is based on \_

72.	Sta	ack data structure follows First In First Out (FIFO)-					
	A)	True					
	B)	False					
	C)	Partially true					
	D)	cannot be determined					
73.		Which of the following data types is used internally when implementing a recursive function-					
	A)	Stack					
	B)	Queue					
	C)	Linked list					
	D)	Tree					
74.		Which of the following protocols are commonly used for flow control in data communication? (Select all that apply)					
	A)	Sliding Window Protocol					
	B)	HDLC (High-Level Data Link Control)					
	C)	Token Passing					
	D)	FDMA (Frequency Division Multiple Access)					
75.	-	transmission, the channel capacity is shared by both the communicating de	evices				
	A)	Simplex					
	B)	Half-Duplex					
	C)	Full Duplex					
	D)	Half-Simplex					
76.	A_ over	provides long-distance transmission of data, image, audio, and video informer a large geographic areas.	ation				
	A)	LAN					
	B)	WAN					
	C)	MAN					
	D)	none of the above					
(36)	(A)	(19) [P.	T.O.				

_	is designed to use the high bandwidth capability of fibre- optic cable.				
A)	FDM				
B)	TDM				
C)	WDM				
D)	None of the above				
Tra	nsmission media are usually categorized as				
i)	Fixed				
ii)	Guided				
iii)	Metallic				
iv)	Unguided				
A)	i) and ii) are correct				
B)	ii) and iv) are correct				
C)	i) and iv) are correct				
D)	ii) and iii) are correct				
	Which of the following protocols is commonly used for secure data transfer and file sharing over a network?				
A)	SMTP (Simple Mail Transfer Protocol)				
B)	POP (Post Office Protocol)				
C)	TELNET (Telecommunication Network)				
D)	FTP (File Transfer Protocol) over FTPS or SFTP				
In co	omputer networks, what is the primary role of a firewall?				
A)	To establish secure connections between devices.				
B)	To manage network configuration settings.				
C)	To filter and block malicious network traffic.				
D)	To map logical addresses to physical addresses.				
Wha	at is the primary advantage of using IPv6 (Internet Protocol version 6) over IPv4?				
A)	Smaller address space				
B)	Use of classful addressing				
C)	More efficient routing				
D)	Limited support for multicast				
(A)	(20)				
	B) C) D Trai ii) iii) iii) A) B) C) D) Whishar A) B) C) D) What A) B) C) D) C)				

82.		Which of the following wireless networking standards operates in the 5 GHz frequency band and offers higher data rates with better resistance to interference?					
	A)	802.11a					
	B)	802.11b					
	C)	802.11g					
	D)	802.11n					
83.	Inc	omputer networking, what is the purpose of a VLAN (Virtual LAN)?					
	A)	To establish secure connections between remote networks.					
	B)	To segment a physical network into multiple logical networks.					
	C)	To map logical addresses to physical addresses.					
	D)	To provide encryption for data transmission					
84.	Which multiplexing technique combines multiple low-speed signals into a single high- speed signal for transmission over a shared medium?						
	A)	FDM (Frequency Division Multiplexing)					
	B)	TDM (Time Division Multiplexing)					
	C)	CDM (Code Division Multiplexing)					
	D)	WDM (Wavelength Division Multiplexing)					
85.	Which network protocol is primarily responsible for the dynamic allocation of I addresses to devices on a network?						
	A)	HTTP (Hypertext Transfer Protocol)					
	B)	DNS (Domain Name System)					
	C)	DHCP (Dynamic Host Configuration Protocol)					
	D)	FTP (File Transfer Protocol)					
86.		ich type of transmission media is most susceptible to electromagnetic interference signal attenuation?					
	A)	Coaxial cable					
	B)	Fiber-optic cable					
	C)	Twisted-pair cable					
	D)	Wireless transmission					
(36)	(A)	(21) [P.T.O.					

87.	Which of the following network topologies connects all devices in a linear fashion, where each device is connected to exactly two other devices, except for the endpoints?						
	A)	Star					
	B)	Bus					
	C)-	Ring					
	D)	Mesh					
88.		ich OSI layer(s) is/are responsible for error detection and correction in data smission?					
	A)	Physical Layer					
	B)	Data Link Layer					
	C)	Transport Layer					
	D)	Network Layer					
89.		ich of the following terms describes the process of converting analog data into digital n for transmission?					
	A)	Modulation					
	B)	Multiplexing					
	C)	Demodulation					
	D)	Encoding					
90.	То є	evaluate any arithmetic operation compilers generally use					
	A)	Infix notation					
	B)	Prefix notation					
	C)	Postfix notation					
	D)	None of the above					

91.	Which of the following protocols is commonly used for secure remote login to network devices and servers?									
	A)	HTTP (Hypertext Transfer Protocol)								
	B)	SMTP (Simple Mail Transfer Protocol)								
	C)	TELNET (Telecommunication	Netwo	ork)						
	D)	FTP (File Transfer Protocol)								
92.	Cho	oose the Correct option								
	1.	Broadband Transmission	a	Managing the flow of data between sender and receiver						
	2.	OSI Reference Model	b.	High- speed data transmission using multiple frequencies						
	3.	ARP	c.	Seven-layer framework for network design						
	4.	Sliding Window Protocol -	d.	Mapping logical addresses to physical addresses						
	A)	1-b 2-c 3-d 4-a								
	B)	1-b 2-d 3-c 4-a								
	C)	1-c 2-d 3-a 4- b								
	D)	1-c 2-a 3-d 4-b								
93.	Assertion: TCP Flow Control and Congestion Control serve similar purposes in network communication.									
	Reasoning: Both TCP Flow Control and Congestion Control mechanisms aim to regulate the flow of data within a network to ensure efficient and reliable data transmission.									
	A)	A) The assertion is true, reasoning is also true.								
	B)	The assertion is true, but the reasoning is false.								
	C)	The assertion is false, but the re	easoni	ng is true.						
	D)	The assertion is false, reasoning	g is al	so false.						
(36)	(A)		(23	[P.T.O.						

94.	Whi	ich of the following is a characteristic of analog signals?
	A)	They are continuous.
	B)	They can take on any value within a range.
	C)	They are commonly used in digital communication.
	D)	They are less susceptible to noise than digital signals.
95.		ne context of the theory of computation, which of the following problems is considered -computational?
	A)	Solving systems of linear equations
	B)	Calculating the factorial of a number
	C)	Sorting a list of integers
	D)	Determining if an arbitrary program halts on all inputs
96.	Cho	ose the statements that apply to the Pumping Lemma for regular languages:
	A)	It is used to prove that a language is regular.
	B)	It is used to prove that a language is not regular.
	C)	It applies only to context-free languages.
	D)	It involves breaking a string into three parts.
97.		ich of the following is a characteristic of a context-free grammar in Chomsky Normal m (CNF)?
	A)	It allows left-recursion.
	B)	Every production has the form $A \to BC$ .
	C)	It can generate regular languages.
	D)	It is ambiguous.
(36)	(A)	(24)

98.	Tota	al number of edges in a complete graph with n vertices is	
	A)	n <sup>2</sup>	
	B)	n(n-1)	
	C)	(n x (n-1)) / 2	
	D)	(n-1) <sup>2</sup>	
99.		ne context of Turing Machines (TMs), what is the significance of a chine (UTM)?	Universal Turing
	A)	It can simulate the behavior of any other TM.	
	B)	It is a TM that accepts only prime numbers.	
	C)	It can solve NP-complete problems in polynomial time.	
	D)	It is a TM that recognizes context-sensitive languages	
100.		tch the letters (A, B, C, D) with the corresponding descriptions (squages:  Regular Language	1, 2, 3, 4). Formal
	b.	Context-Free Language	
	c.	Context-Sensitive Language	
	d,	Recursively Enumerable Language	
	Des	criptions:	
	1.	Languages that can be recognized by a deterministic pushdown au	tomaton (DPDA).
	2.	Languages generated by context- free grammars.	
	3.	Languages that can be recognized by a linear-bounded automator	n.
	4.	Languages that can be recognized by a Turing machine.	
	A)	a. 1 b. 2 c. 3 d. 4	
	B)	a. 2 b. 3 c. 1 d. 4	
	C)	a. 3 b. 1 c. 4 d. 2	174
	D)	a. 4 b. 3 c. 2 d. 1	
(36)	(A)	(25)	[P.T.O.

101.	What are	the characteristics of	of LL(1)	parsing?
------	----------	------------------------	----------	----------

- A) It uses leftmost derivation.
- B) It allows arbitrary lookahead tokens.
- It is suitable for all types of grammars.
- It uses a parse table.

#### 102. Which of the following statements are correct:

- The sum of degrees of all vertices in a graph G is equal to twice the number of edges in G
- ii) In a graph the number of vertices of odd degree is even.
- Maximum degree of any vertex in a simple graph having n vertices is n-1.
- A) Only (i) and (ii) are correct
- B) Only (ii) and (iii) are correct
- C) Ony (i) and (iii) are correct
- D) (i), (ii) and (iii) are correct

#### 103. In the context of context-free grammars, what does the term "ambiguity" refer to?

- A) The presence of multiple possible parse trees for a given string
- B) The use of left recursion
- The inability to derive ε (the empty string)
- D) The presence of ε-productions

### 104. What is the primary function of an attribute grammar in semantic analysis?

- A) Parsing the input source code
- B) Handling syntax errors
- C) Defining the language grammar
- Annotating the parse tree with additional information

105.	wn	ich of the following is a property of a	Reguia	r Language?		
	A)	It can be recognized by a context-se	nsitive	grammar.		
	B)	It can be ambiguous.				
	C)	It can be infinite.				
	D)	It can be recognized by a Finite Auto	omaton			
106.	Wha	at is the significance of Russel's Parac	lox in s	et theory and formal logic?		
	A)	It proves the existence of a universa	l set.			
	B)	It demonstrates the limitations of fo	rmal s	ystems.		
	C)	It establishes the foundation for recu	ırsive l	anguages.		
	D)	It defines the Chomsky hierarchy.				
107.	In th	ne context of regular expressions, wha	at does	the Kleene star (*) operator signify?		
	A)	Concatenation of two regular expres	ssions.			
	B)	Zero or more occurrences of the pre	eceding	g expression.		
	C)	C) The start symbol of a context- free grammar.				
	D)	The negation of an expression				
108.	Mate	ch Column A with Column B.				
	Colu	ımn A		Column B		
	(i)	minimum spanning	(a)	Kruskal's and Prim's Algorithm		
		tree of a weighted graph				
	(ii)	All pair shortest path algorithm	(b)	Dijkstra's Algorithm		
	(iii)	Single-source shortest path	(c)	Bellman-Ford Algorithm		
		where edge weight may be negative				
	(iv)	Single-source shortest path	(d)	Floyd-Warshall Algorithm		
		where edge weight is non-negative				
	A)	i a ii d iii c iv b	B)	i b ii d iii c iv a		
	C)	i a ii c iii d iv b	D)	i d ii a iii c iv b		
(36)	(A)	(2)	7)	[P.T.O.		

1	109.	Wh	Which class of languages is recognized by a Turing machine with an unrestricted grammar?						
		A)	Context-sensitive language						
		B)	Regular languages						
		C)	Context-free languages						
		D)	Unsolvable languages						
1	10.	The	: Halting Problem is an examp	ple of a problem	that is:				
		A)	Solvable for all programs.						
		B)	Decidable for all inputs.						
		C)	Unsolvable for some progra	ams and inputs.					
		D)	Solvable in polynomial time	ė,					
1	11.		thod in which the previously obability is called	calculated proba	bilities are revised with values of new				
		A)	Revision theorem	B)	Bayes theorem				
		C)	Dependent theorem	D)	Updation theorem				
1	12.	Which of the following statements are true regarding attribute grammars in compiler design?							
		A)	Synthesized attributes deper	nd on inherited a	attributes.				
		B)	Inherited attributes depend	on synthesized a	ttributes.				
		C)	Dependency graphs are used	d to represent at	tribute dependencies.				
		D)	Type-checking is not a part of	of semantic anal	ysis.				
1			ertion: A Universal Turing Ma	achine (UTM) c	an simulate the behavior of any other				
			soning: The UTM can take the simulate the execution of that		another Turing machine and its input tinput.				
		A)	The assertion is true, reason	ing is also true.					
		B)	The assertion is true, but the	reasoning is fa	lsc.				
	3	C)	The assertion is false, but th	e reasoning is tr	ue.				
	g	D)	The assertion is false, the re-	asoning is also	false.				
(3	6) (	A)		(28)					

114.	auto of re	certion: A context-free language can always be recognized by a deterministic pur- bratton (DPDA). Reasoning: A deterministic pushdown automaton (DPDA) is recognizing context-free languages because it can process context-free gra- hout ambiguity.	capable
	A)	The assertion is true, the reasoning is also true.	
	B)	The assertion is true, but the reasoning is false.	
	C)	The assertion is false, but the reasoning is true.	
	D)	The assertion is false, the reasoning is also false.	
115.		nat is the name given to the Database Management System which is able to har at, Image data, Audio and Video?	adle full
	A)	Full Media	
	B)	Graphics	
	C)	Multimedia	
	D)	Hypertext	
116.	117	which addressing mode the operand is given explicitly in the instruction?	
	A)	Absolute Mode	
	B)	Immediate Mode	
	C)	Indirect Mode	
		Index Mode	
	D)	Index Mode	
117.		nat are the Potential Problems when a DBMS executes multiple trans- neurrently	actions
	A)	The Lost Update Problem	
	B)	The dirty Read Problem	
	C)	The unrepeatable Problem	
	D)	The Phantom Problem	
118.	The	e Employee Salary should not be greater than Rs 2000, this is	
	A)	Integrity Constraint	
	B)	Referential Constraint	
	C)	Entity Contstraint	
	D)	Domain Constraint	
(36)	(A)		[P.T.O.

#### 119. PERT and CPM are

- A) Assignment Techniques
- B) Network Techniques
- C) Project Evaluation Techniques
- D) Programming Techniques
- 120. Which of the following testing methods is normally used as the acceptance test for a Software System
  - A) Regression Testing
  - B) Integration Testing
  - C) Unit Testing
  - D) Functional Testing

## ROUGH WORK

(36) (A) (31) [P.T.O.

## ROUGH WORK



(36)(A)

Booklet Serial No.

219333

Test Booklet Series

### TEST BOOKLET RETAIL MANAGEMENT

Written Test - 2023

(65)



Time Allowed: Two Hours

Maximum Marks: 120

### INSTRUCTIONS

- IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET DOES NOT HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS, ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
- Please note that it is the candidate's responsibility to encode and fill in the Roll Number and Test Booklet Series Code A, B, C or D carefully and without any omission or discrepancy at the appropriate places in the OMR Answer /Response Sheet. Any omission/discrepancy will render the Response Sheet liable for rejection.
- 3. You have to enter your Roll Number on the
  Test Booklet in the Box provided alongside.

  DO NOT write anything else on the Test Booklet.
- 4. This Test booklet contains 120 items (questions). Each item comprises of four responses (answers). You will select the response which you want to mark on the Answer Sheet/Response Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose ONLY ONE response for each item.
- You have to mark all your responses ONLY on the separate Answer /Response Sheet provided. See directions in the Response Sheet.
- 6. All items carry equal marks.
- Before you proceed to mark in the Answer /Response Sheet, the response to various items in the Test Booklet, you have to fill in some particulars in the Answer /Response Sheet as per instructions sent to you with your Admission Certificate.
- 8. After you have completed filling in all your responses on the Response Sheet and the examination has concluded, you should hand over to the Invigilator only the Answer /Response Sheet. You are permitted to take away with you the Test Booklet and Candidate's Copy of the Response Sheet.
- Sheets for rough work are appended in the Test Booklet at the end.
- While writing Centre, Subject and Roll No. on the top of the Answer Sheet/Response Sheet in appropriate boxes use "ONLY BALL POINT PEN".
- 11. Penalty for wrong answers:

# THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY THE CANDIDATE IN THE WRITTEN TEST (OBJECTIVE TYPE QUESTIONS PAPERS).

- (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, (0.25) of the marks assigned to that question will be deducted as penalty.
- (ii) If a candidate gives more than one answer, it will be treated as a wrong answer even if one of the given answers happens to be correct and there will be same penalty as above for that question.
- (iii) If a question is left blank, i.e., no answer is given by the candidate, there will be no penalty for that question.

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO

I,	The	e benefit of using augment	ted reality and virtual reality	in retailing is to boost			
	A)	In-store promotion					
	B)	Customer experience ar	nd engagement				
	C)		ALSO PARTICIPATED				
	D)						
2.			membership fee to provide	access to bulk buying at low			
	20000	ces?					
	A) B)	Supercenter Discount store					
	2000						
	C) D)	Speciality Store					
3.	The	e term "store brand" is inte	rchangeably called as				
	A)	Premium brand	renangeatory curied as				
	B)	Counterfeit brand					
	C)	Global brand					
	D)	Private label brand					
4.	Wh	ich type of retailing involv	ves selling products through v	ending machines installed in			
100	Which type of retailing involves selling products through vending machines installed in high-traffic areas?						
	A)	Pop-up stores					
	B)	Teleshopping					
	C)	Kiosk retailing					
	D)	V-commerce					
5.	Wh	ich retail format combine	s a supermarket with a full lin	ne discount stores			
	A)	Outlet store	#4000000000000000000000000000000000000				
	B)	Warehouse club					
	C)	Supercenter					
	D)	Specialty store					
6.	The	use of AI and machine k	earning to make predictions	in retail sector by analyzing			
	larg	e datasets include					
	i)	Predictive analysis					
	ii)	Big data analytics					
	iii)	Cloud analytics					
	iv)	Self Service analytics					
	A)	Only (i) and (ii)					
	B)	Only (i) and (iii)					
	C)	(i), (ii), (iii)					
	D)	All of the above					
(65)	(A)		(3)	IP.T.O.			

7.	A strategy that involves offering a limited time deal each day at same time to online							
		hoppers to create necessity						
	A)	Close outs						
	B)	Flash sale						
	C)							
	D)	Price skimming						
8.	In the context of Retail Management the term "DODO" stands for							
	A)	Distributor owned Distributor operated						
	B)	Directly owned directly operated						
	C)	Dealer owned dealer operated						
	D)	Department owned department operated						
9.	Ide	ntify the advertising platform where advertisers bid on keywords to display ads						
	A)	Youtube Ads						
	B)	Facebook Ads -						
	C)	Google Ads						
	D)	Twitter Ads						
.10	Hoy	w CPC (Cost per click) is calculated in online advertisements?						
	A)	Total clicks by total conversions						
	B)	Total advertising cost by number of clicks						
	C)	Total impressions by total clicks						
	D)	Total advertisement spend by total impressions						
11.	Δfi	alfillment model that allows retailers to outsource handling and shipping of products						
		to end customers is termed as:						
	A)	Dropshipping						
	133300							
		Destination retailers Direct store delivery						
	C) D)	Exclusive distribution						
	D)	Exclusive distribution						
12.	Wh	Which of the following statement/statements is/are true?						
	i)	NFC (Near Field communication) is a short range wireless technology that requires						
		5 cm or less distance to initiate a connection.						
	ii)	NFC (Near Field communication) technology is rooted in RFID (Radio frequency						
		Identification)						
	iii)	NFC (Near Field communication) uses 128-bit or higher encryption to initiate secured payment						
	in							
	iv)	NFC (Near Field communication) drivers payment services like Apple pay and Google Wallet						
	A)	Statements (i) and (ii) and (iii) are true						
	B)	Statements (ii) and (iii) and (iv) are true						
	C)	Statements (i), (ii), (iv) are true						
	D)	All statements are true						
(65)		All statements are rue						
1.0	2.00	144						

13.	The primary objective of a retail institutions by store based strategy mix is:			
	A)	To reduce operational cos	sts	12
	B)	To increase online sales		
	C)	To expand into new marke	ets	
	D)	To maximize customer sa	tisfaction	
14.	Wh	at is scrambled merchandisi	ng?	
	A)	Focus on single product of		
	B)	Offering discounts on all		
	C)	Mixing unrelated product	701106000000000000000000000000000000000	
	D)	Selling only high end pro		
15.	The	average store area of a Box	(Limited line) store is app	roximately between
	A)	5,000 or less		
	B)	5000-9000 sq. ft.		
	C)	10,000-15,000 sq. ft.		
	D)	15000+ sq. ft		
16.	Wh	ich of the following are C20	C e-commerce companies?	
	i)	Flipkart		
	ii)	Amazon Marketplace		
	iii)	eBay		
	iv)	OLX		
	A)	(i),(ii),(iii)		
	B)	(ii), (iii), (iv)		
	C)	(i), (ii), (iv)		
	D)	All of the above		
17.	"Ni	giris" one of the oldest supe	ermarket chain in India was	founded in
	A)	1857		
	B)	1905		
	C)	1958		
	D)	1985		
18.		up of consumers having sim arketing efforts termed as	ilar buying habits,characte	ristics, and respond similarly
	A)	Demographic group		
	B)	Niche market		
	C)	Consumer cohort		
	D)	Market Segment		
(65)	(A)		(5)	[P.T.O.

19.	When consumer's make purchase decision after extensive research and evaluation of alternatives is referred as?			
	A)	Impulsive buying		
	B)	Variety-seeking		
	C)	Habitual buying		
	D)	Complex buying		

- 20. Which psychological theory put forward that consumers make purchase decisions based on mental shortcuts?
  - A) Theory of planned behaviour
  - B) Heuristic theory
  - Operant conditioning theory
  - D) Classical conditioning theory
- 21. Geofencing technology helps retailers to:
  - A) Enhance store security
  - B) Increase store traffic
  - Target customers with location based offers
  - Identifying shoplifters
- 22. The primary purpose of heatmapping technology is
  - Analyzing footfall patterns in store
  - B) Tracking customer purchase in store
  - C) Employee tracking in store
  - D) Managing inventory levels in store
- 23. Beacon in retail is a type of which technology
  - A) Wi-Fi
  - B) RFID (Radio Frequency Identification)
  - NFC (Near Field Communication)
  - D) BLE (Bluetooth Low Energy)
- 24. The term "RFM" that is used to segment company's consumer base stands for
  - A) Retail Feedback Mechanism
  - B) Random Frequency Metrics
  - C) Recency, Frequency, Monetary
  - D) None of the above

25.	Which retail strategy focus on offering high quality products at premium price to a specific group of buyers?				
	A)	Differentiation			
	B)	Cost leadership			
	C)	Market development			
	D)	Market penetration			
26.	Which type of stores are temporary setup to take advantage of high foot traffic?				
	A)	Discount stores		5.00	
	B)	Superstore			
	C)	Convenience store			
	D)	Pop-up stores			
27.	What does the term "visual merchandise" refers to?				
	A)	Managing supply chain			
	B)	Manging online sales			
	C)	Displaying products in a	an appealing way in the store		
	D)	All of the above	II.		
28.	Which retail pricing strategy involves setting price just below whole numbers?				
	A)	Odd-even pricing	10 NOT 30 PROVIDED TO 10		
	B)	Competitivepricing			
	C)	Psychological Pricing			
	D)	Round pricing		74	
29.	What is the primary goal of price skimming?				
	A)	To attain cost leadership	)		
	B)	Maintain price stability			
	C)	Maximize market share			
	D)	Capture early adopters			
30.	The pricing strategy that involves setting a very low price for daily essentials with the hope that customers will make purchase of higher margin profit items				
	A)	Predatory pricing			
	B)	Loss leader pricing			
	C)	Psychological pricing			
	D)	Price bundling			
(65) (A)			(7)	[P.T.O.	

- 31. What does the acronym "API" stands for in the context of platform retailing?
  - A) Application Programming Interface
  - B) Advanced Pricing Index
  - C) Automated Product Integration
  - D) Advanced Programming Integration
- 32. Which of the following services is primarily offered by Lightspeed eCom?
  - A) Email marketing automation
  - B) Social media management
  - Point of sale and software provider
  - Provides robust security measures
- 33. Which of the following is/are true for e-commerce platform VTEX?
  - i. Headquatered in Berlin, Germany
  - ii. Helps businesses manage online stores
  - iii. Offers white-labelling option
  - iv. Provides virtual stock features
  - A) Only i, ii, iii are true
  - B) Only ii, iii, iv are true
  - C) Only i, ii, iv are true
  - All statements are true
- 34. "Apathetic shoppers" refers to
  - A) Customers who take lot of time in making final purchase decisions
  - B) Customers who are more involved with sales person
  - C) Customers who do not respond to in-store promotions
  - All of the above
- 35. What is the primary goal of platform retail strategy?
  - A) Maximizing profits
  - B) Facilitating value co-creation
  - C) Minimizing retail formats
  - Creating exclusive product range
- 36. What is the meaning of the term 'sweepstakes'?
  - A) Customers compete for prizes by completing a game like crossword puzzle
  - B) Participants merely fill the application form and winner is picked at random
  - Presents and gifts are given to current customers when they bring in new customers
  - Customers are given discounts based on their purchases.

37.	"Lo	optworks" is a firm engaged in upcycling of
	A)	Apparels
	B)	Shoes
	C)	Paper
	D)	Plastic
38.	Wh	y retailers choose to operate in a string shopping area?
	A)	To lower the zoning restrictions
	B)	To lower the advertising cost
	C)	To capitalize on better road visibility and parking
	D)	More control over prices and loyalty from customers
39.	Wh	at does "EDLP" stands for in the context of retailing?
	A)	Exclusive discount loyality program.
	B)	Extra dicounted Low Pricing
	C)	Efficient Delivery logistics protocol
	D)	Every day low pricing
40.	Wh	ich is not a revenue model for platform based retail?
	A)	Subscription fee
	B)	Advertisement
	C)	In-house manufacturing
	D)	commission
41.		ch among the following is the key consideration in determining markdowns and notions?
	A)	Cost-plus pricing
	B)	Competition
	C)	Retail shelf space
	D)	Inventory turnover
42.		ch technology is important for managing real time inventory visibility in an ichannel strategy?
	A)	Warehouse management software
	B)	IoT
	C)	Machine learning
	D)	All of the above
(65)	(A)	(9) [P.T.O.

43.	Wh	ich of the following statement is true
	A)	Li-Fi is an old technology as compared to Wi-Fi
	B)	Li-Fi uses radio waves for data transmission
	C)	Li-Fi technology was introduced in 2011
	D)	Wi-Fi has more bandwidth than Li-Fi
4.4	D -1	to a Date Date Date of the state of the stat
44.		iance Retail was founded in the year
	A)	2003
	B)	2004
	C)	2005
	D)	2006
45.	Rel	iance retail acquired 'Urban Ladder' an omnichannel furniture retailer by purchasing
	A)	92%
	B)	94%
	C)	96%
	D)	98%
46.	Tita	n Company Ltd. has recently announced to increase its shareholding in Carat Lane
	A)	June, 2023
	B)	July, 2023
	C)	August, 2023
	D)	September 2023
47	Wh	at is the critical factor that is generally left unnoticed in a omnichannel retailing
7/1	A)	Competitor analysis
	B)	Customer feedback
	C)	Pricing strategies
	D)	Employee training
48.		mnichannel retail, "endless aisle" refers to
	A)	Online shopping experience has no limits
	B)	Access to variety of products without crowding the stock
	C)	Aisle layout optimization
	D)	Aisle decor in physical stores
(65)	(A)	(10)

- 49. What does the term "BOFU" stand for
  - A) Bottom of the funnel
  - B) Business outreach and follow up
  - C) Best offers for users
  - D) Brand offers for users
- Two paired statements are given below: statement A (assertion) and statement B (reason).
   Choose the appropriate answer

Assertion: Security is a major concern in the IoT ecosystem.

Reason: IoT devices are often resource constrained and does not have a robust security features

- A) Both assertion and reason are true, reason is the correct explanation of assertion
- Both assertion and reason are true but reason is not the correct explanation of assertion
- C) Assertion is true but reason is false
- Assertion is false but reason is true
- 51. "Moment of truth" in retail refers to
  - A) When a customer interacts with a brand or store
  - B) Specific time when foot fall is highest in a store
  - The moment customer makes a purchase decision
  - D) None of the above
- 52. "Zero Moment of truth" is a term coined by
  - A) Google
  - B) Microsoft
  - C) Facebook
  - D) Twitter
- 53. Who is a brand advocate
  - A) Brand manager
  - B) Marketing agency hired to create brand awareness
  - C) A loyal customer who promotes a brand
  - A paid spokesperson for a brand
- What is the common example of geodemographic segmentation in the following statements
  - A) Segmenting the customers based on their travel history and preference
  - Segmenting customers according to their psychological traits
  - C) Segmenting customers based on their area codes and income
  - Segmenting customers based on their lifestyle

(65) (A) [P.T.O.

55.	Sho	pkick primarily partners with which type of businesses
	A)	Food delivery services
	B)	Entertainment hubs
	C)	E-commerce websites
	D)	Brick and mortar stores
56.	Wh	at is the primary incentives to use the Shopkick app
10000000	A)	Cashbacks
	B)	Reward points
	C)	Coupons
	D)	All of the above
57.	Wh	at is "shopworn" in context of retail
	A)	Brand new item
	B)	Antique or vintage item
	C)	Slightly damaged item
	D)	Low priced item
58.	Whi	ich of the following device is used in stores to prevent shoplifting by triggering alarms
	A)	CCTV
	B)	RFID
	C)	POS
	D)	EAS
59.	Wha	at is the meaning of term "showrooming"
	A)	Enhancing in store experiences and offering exclusive deals
	B)	Encouraging customers to leave online reviews
	C)	Eliminating physical stores and going entirely online
	D)	Comparing prices and make online purchases while in-store
60.	The	term "Shrinkage" refers to
	A)	Decrease in customer foot traffic
	B)	Loss of inventory due to theft or damage
	C)	Reducing store size to manage cost
	D)	Employee turnover
61.	Wh	at is the primary goal of category management in retail store
***	A)	Reducing operational cost
	B)	Improving customer service
	C)	Maximizing profits
	D)	Increasing foot traffic in store
	-	mereoring tool traine in store

- 62. What does "POGs" refer to
  - A) Inventory management strategy
  - B) Visual representation of store products on display
  - C) A financial plan for the products or a category
  - The selection of supplier for a category
- 63. Which is the key component in category management
  - A) Selecting vendors
  - B) Inventory management
  - C) Product placement
  - D) Price fixation
- 64. The term "category management" was coined by
  - A) Michael Levy
  - Brian F. Harris
  - C) Philip Kotler
  - D) Robert Jacobson
- 65. The purpose of "category captain" in category management is
  - A) To organise various events
  - B) To provide expert advice
  - C) To oversee store security
  - All of the above
- 66. Two paired statements are given below: Statement A (Assertion) and Statement B (Reason). Choose the appropriate answer:

Assertion: Promotions in sale always lead to increased profits.

Reason: Offering discounts, rebates, coupons increase customer footfall in store, resulting in higher sales and profits

- A) Both assertion and reason are true, reason is the correct explanation of assertion
- Both assertion and reason are true but reason is not the correct explanation of assertion
- Assertion is true but reason is false
- D) Assertion is false but reason is true
- 67. What does VMI stands for in collaborative planning between supplier and retailer
  - A) Visual Merchandising Inventory
  - B) Virtual Market Intelligence
  - C) Vendor Managed Inventory
  - Variable Merchandising Inventory
- 68. What is the key benefit of collaborative planning between brands and retailers
  - A) Reduced advertising expenses
  - B) Reduced Inventory cost
  - C) Healthy competition
  - Faster decision making

69.	GM	IROI (Gross margin Return on inventory investment) is calculated as
	A)	GMROI=(Gross margin percentage) X (sales to stock ratio)
	B)	GMROI=(Gross margin percentage) X (inventory turnover)
	C)	GMROI=(1-gross margin percentage) X (Sales-to-stock)
	D)	None of the above
70.	Inn	nerchandise planning, the term "OTB" stands for
	A)	Order tracking and billing
	B)	Outstanding trade balance
	C)	Overstocking threshold balance
	D)	Open to buy
	-	
71.		store design which provide benefits of locating and purchasing products in an efficient timely manner is referred to as
	A)	Design with hedonic benefits
	B)	Design with utilitarian benefits
	C)	Design with signage benefits
	D)	None of the above
72.	Wh	at is the name of the layout with merchandise on shelves on both sides of the aisles
14.	A)	Racetrack
	B)	Free form
	33.55	Grid
	C) D)	Boutique
	D)	Bounque
73.	Sign call	nage placed in strategic locations in the store to engage customer via QR codes are ed
	A)	Promotional signage
	B)	Call-to-action signage
	C)	Category signage
	D)	Point-of-sale signage
74.	"Ca	sh wraps" are also referred to as
	A)	Freestanding displays
	B)	Checkout areas
	C)	End caps
	D)	Promotional aisle
75.	Wha	at is the name of the merchandise that customers have decided to buy before entering
		store
	A)	Special merchandise
	B)	Category Adjacencies
	C)	Destination merchandise
	D)	Impulse merchandise
(65)	(A)	(14)

	76.	Mat	ch List I with List II	and s	select the correct answer using the codes pro	ovided	
			List - I		List - II		
		1.	MOFU	i.	When consumers give feedback for a bra- service	nd, product or	
		2.	TMOT	ii.	Metrics to calculate customer aquisition of	cost (CAC)	
		3.	CBD	iii.	Traditional downtown financial and busines or town	ss area in a city	
		4.	BOFU	iv.	Metrics that demonstrates when consumers likelihood to purchase	have a greater	
		Coc	les:				
		A)	1-ii, 2-iii, 3-iv, 4-i				
		B)	1-iii, 2-iv, 3-i, 4-ii				
20		C)	1-iv, 2-i, 3-iii, 4-ii		27		
· ·		D)	1-i, 2-ii, 3-iii, 4-iv	/			
	77.		other name for a four	-way	fixture		
		A)	Capacity fixture				
		B)	Feature fixture				
		C)	Bulk fixture				
		D)	Gondola				
	78.	Wh	at is the main purpos	e of i	dentifying hotspots and coldspots in retail s	store	
		A)	To optimize store l	ayou	t and product placement		
		B)			otions for summer or winter products		
		C)			ture according to season		
		D)	To track employee	enga	gement with customers at various store loca	ations	
	79.		azon.com, Inc was fo	unde	d in the year		
		A)	1993				
		B)	1994				
		C)	1995 1996				
		D)	1990				
	80	Wh	o is the founder of "e	hav"	e-commerce company?		
	00.	A)	Jeff Bezos	out	e commerce company:		
		B)	Pierre Omidyar				
		C)	Jack Ma				
		D)	Andy Jassy				
	81.	Who	o is the President,CE	Oof	retail company "Walmart"	45	
		A)	Greg Penner		ME SHEES		
		B)	Sam Walton, Bud w	valtor	í		
		1000					
		C)	Douglas McMillon				
	(4)25.005	D)	J. Michael Evans		(15)	[P.T.O.	
	(65)	(A)			(15)	[i.i.o.	

82.				is ownership in Flipkart after Walmat increased its
			Flipka	art in the month of Sep,23?
	A)	Sachin Bansal		
	B)	Tiger Global		
-	C)	Tencent		
	D)	Accel Partners		
83.	Ret	ail Marketing Mix is c	alled	
	A)	4 P's of Retailing		
	B)	5 P's of Retailing		
	C)	6 P's of Retailing		
	D)	7 P's of Retailing		
84.	Mat	tch List I with List II a	nd sele	ect the correct answer using the codes provided
		List - I		List - II
	1.	Consistency	i.	The number of different products carried by a store
	2.	Depth	ii.	Variety of product lines that store offers
	3.	Length	iii.	The number of each item or particular style in a store
	4.	Breadth	iv.	How products are related to each other in retail
	Coc	les:		
	A)	1-iii, 2-ii, 3-i, 4-iv		
	B)	1-ii, 2-iv, 3-iii, 4-i		
	C)	1-iv, 2-iii, 3-i, 4-ii		
	D)	1-i, 2-iii, 3-ii, 4-iv		
85.	The	percentage of FDI alle	owed i	n Multi Brand retail trading in India in the year 2019
	A)	49%		
	B)	50%		
	C)	51%		
	D)	None of the above		
86.	Whi	ich of the following st	ateme	nts is/are true for FDI in multi brand retailing
	L	이 아이는 아이들이 아이들이 아이를 살아왔다.		ought in, as FDI, by the foreign investor, would be USD
	II.			of procurement of manufactured/processed products from Indian micro, small and medium industries
	III.	Retail sales outlets 10 lakh	may b	e set up only in cities with a population of more than
	IV.	Government will have	ve the	first right to procurement of agricultural products

A)

B)

C)

D)

Statements I,II,III are true

Statements II, III, IV are true

Statements I, III, IV are true Statements I, II, IV are true

87.	Ave	nue Supermarts Ltd, an Indian retail corporation was founded	d in the year
	A)	2000	
	B)	2001	
	C)	2002	
	D)	2003	
88.		smartphone retailers are against the state government plan nes to women in	s to provide free smart
	A)	Madhya Pradesh	
	B)	Chattisgarh	
	C)	Rajasthan	
	D)	Karnataka	
89.		ailers that aim to focus on needs of customers rather than sin	mply increasing profits
	A)	Direct to consumer	
	B)	Value retailers	
	C)	Mutuals	
	D)	National heroes	
90.	Sus	tainable Green marketing is referred as:	
	A)	The marketing affairs that are directed to help and give solurelated problems	tions to environmental
	B)	The marketing affairs that are directed towards cleaner tec emissions and waste	chnology and reducing
	C)	The marketing affairs that are directed towards good quality	y product development
	D)	All of the above	
91.	Hov	v much percentage the Indian retail industry contribute to co	untry's GDP
	A)	6%	10 T. 10 T. 10 10 10 10 10 10 10 10 10 10 10 10 10
	B)	8%	
	C)	10%	
	D)	12%	
92.	The	Indian retail industry generates employment for how much pe	ercentage of population
	A)	4%	22000000000000000000000000000000000000
	B)	6%	
	C)	8%	
	D)	10%	
(65)	0.000	(17)	[P.T.O.

93.	The	other name for private label brands is:
	A)	National brands
	B)	International brands
	C)	Exclusive brands
		Generic brands
94.		onym for an omnichannel fulfillment model which is meant to serve customers needs
	by e	mabling them to buy online and then pick up their order from store
	A)	BODFS
	B)	BOPIS
	C)	BORIS
	D)	PUDO
95.	ZAI	RA a multinational retail clothing chain is headquatered in
	A)	UK
	B)	France
	C)	Spain
	D)	Italy
96.	Who	en a company offers various price options and flavours in a product, the brand
	deve	elopment strategy is referred to as
	A)	Brand Extension
	B)	Line Extension
	C)	Multi Brands
	D)	New Brands
97.	Nan	ne the biggest retailer in the world to raise awareness for the Detox campaign
	A)	Kroger
	B)	Target
	C)	Costco
	D)	ZARA
98.	Whi	ch company is the manufacturer of electric 3 wheelers which are in high demand by
	e-co	mmerce companies to service their consumers
	A)	Aion
	B)	Aiways
	C)	Altigreen
	D)	Aspark
99.		wealth fund who invested recently in Reliance Retail raising the business valuation
	to R	s. 8.28 lakh crore
	A)	SAFE Investment Company Limited
	B)	Qatar Investment Authority
	C)	Abu Dhabi Investment Authority
	D)	Sovereign wealth fund
		Contract on the Contract of th

100.	Gal	aries Lafayette is a luxury	retailer has its	orig	gin in
	A)	Spain			
	B)	France			
	C)	UK			
	D)	Italy			
101.	"Ba	lenciaga SA" a luxury fash	ion house is plan	min	g to open its stores in India in parternship
	with				
	A)	Aditya Birla Group			
	B)				
	C)	Avenue Supermarts Ltd.			
	D)	Future Lifestyle Fashion	n Ltd.		
102.			y has recently r	aise	ed \$200 million at a valuation of \$1.4
	billi	1000			
	A)	Dunzo			
	B)	Blinkit			
	C)	N/103/800700			
	D)	Swiggy			
103.					in partnership with international hotel
		in Marriott to gain market	share in retail le	end	ing
	A)	HDFC			
	B)	ICICI			
	C)	Axis Bank			
	D)	SBI			
104.	LuL	au Group, that operates a cl	hain of hyperma	irts	and retail companies is headquatered in
	A)	Abu Dhabi			
	B)	Doha			
	C)	Muscat			
	D)	Saudi Arabia			
105.	Mat	ch List I with List II and s	elect the correc	t an	swer using the codes provided
		List I (Co-branding st	rategies)		List II (Importance)
	1.	Reaching In		i.	Achieve greater market penetration
	2.	Reaching out		ii.	Brings both strong image and access to new customers
	3.	Reaching up	1	iii.	Tapping new markets
	4.	Reaching beyond		iv.	Image enhancement strategy
	A)	1-i,2-ii,3-iii,4-iv			
	B)	1-ii, 2-iii, 3-i, 4-iv			
	C)	1-i, 2-iii, 3-iv, 4-ii			
	D)	1-iv,2-ii,3-iii,4-i			
(65)	11000001	CONTRACTOR OF PARTICULAR SOCIETY	(19)		[P.T.O.

106.	Wh	ich of the following is not a	n appa	rel brand of Raymond Group
	A)	Louis Philippe		AND FEMALE HOUSE BY AND
	B)	Park Avenue		
	C)	Color Plus		
	D)	Parx		
107.	Wal	mart bought the stake of Fl	ipkart (	co-founder Binny Bansal at a valuation of about
	A)	\$500 million	*********	14 to 15 (2000 to 15 (2000 10 10 € 1.00 10 10 10 10 10 10 10 10 10 10 10 10 1
	B)	\$550 million		
	C)	\$600 million		
	D)	\$650 million		
108.	Wh	ich of the following is N	OT a	challenge for retailers in implementing O2O
		vergence		5
	A)	Reducing customer engage	gement	
	B)	Inventory management		
	C)	Managing consistent pric	ing act	ross channels
	D)	Data security		
109.	Mat	ch List I with List II and se	lect the	e correct answer using the codes provided
		List - I		List - II
	1.	CLV	i.	Application of statistical techniques and model to improve retail decisions through analyses of customer data
	2.	RFM analysis	ii.	An information processing method that relies on search techniques to discover new insights into
	2	Date Date of the	200	buying patterns of customers
	3.	Retail analytics	iii.	The expected contribution from the customer to the retailer's profits over the entire relationship period with the retailer
	4.	Data Mining	iv.	Used in catalog and Internet channels to determine customer segments that a retailer should target for promotion or catalog mailing
	Cod	les:		
	A)	1-iii, 2-iv,3-i, 4-ii		
	B)	1-iii, 2-iv, 3-ii, 4-i		
	C)	1-i, 2-ii, 3-iii, 4-iv		
	D)	1-iv, 2-iii, 3-ii, 4-i		
110.	Wha	at does "MTR", a speciality	food s	store in India stands for
	A)	Mysore Tiffin Room		
	B)	Malabar Tiffin Room		
	C)	Maharashtra Tiffin Room		

(20)

Mavalli Tiffin Room

(65) (A)

(65)	(A)	(21)	[P.T.O.
			m m o
	D)	Storability product grouping	
	C)	일	
	B)	Purchase motivation product grouping	
	A)	17 TO TO TO THE STATE OF THE ST	
		be of a product grouping is this	
117.	Am	music store separates musical CDs into rock, jazz, classical and other sec	tions. What
	D)	beacons anows to make phone cans in store it mere is poor network	
	D)	To - 17 M TO STATE THE TOTAL TO THE STATE OF	
	C)	[] "는 전문에는 말하다"가 되었다면 하면 하는 시간에 가면 보면 하면 하면 하면 하면 하면 하면 보면 하면	
	A) B)	급 하는 하셨다면서 요즘들은 이렇게 하셨습니? 중요하는 10 이번 사람이 하면 하고 있다면 하셨다면 하셨다면 하셨다면 하셨다면 하셨다면 하셨다면 하셨다면 하셨	
110.		hich statement is true for beacon technology and smartphone apps in retai	П
116	11/1-	high statement is true for hangon tacknology and exact bong one in set-	11
	D)	None of the above	
	C)	Both A and B	
	B)	Criminal offense	
	A)	USA (1997) 1998 (1997) 1994 (1997) 1994 (1997) 1995 (1997)	
115	"Sh	hoplifting" is considered as	
	D)	Supply Chain	
	C)		
	B)		
	A)		
114.		hich among the following is not the element in Retail Mix	
	D)	Brand Positioning	
	C)	Niche Marketing	
	B)	Cost Leadership	
	A)	Differentiation	
113.	The	ne business strategy of a "Copycat Brand" is	
	2,	Party Direct additional recent	
	D)		
	C)		
	B)		
114.	A)	10 (10 ) (10	
112	The	ne only Indian Retailer to feature in the top 100 retailers globally	
	D)	8.1%	
	C)		
	B)		
	A)		
		40 A 1 ( ) A 1 ( ) A 1 ( ) A 1 ( ) A 1 ( ) A 1 ( ) A 1 ( ) A 1 ( ) A 1 ( ) A 1 ( ) A 1 ( ) A 1 ( ) A 1 ( ) A 1	

III. According to Consumer Price Index (CPI), the retail inflation of vegetables prices in the

month of July was

- 118. If a mannequin is dressed in a matching combination of shirt, pants, socks, shoes and jacket, it is referred to as
  - A) Cut case display
  - B) Ensemble dispaly
  - Theme setting display
  - D) None of these
- 119. Which is NOT a type of "store brands"
  - A) Copycats
  - B) Value Innovators
  - C) Premiun-lite store brands
  - D) National brands
- 120. Which is NOT a geographical pricing strategy
  - A) Uniform-delivered pricing
  - B) Basing-point pricing
  - C) FOB-origin pricing
  - D) Captive-product pricing

# ROUGH WORK

# ROUGH WORK



(65) (A)

Booklet Serial No. 100097

Test Booklet Series

# TEST BOOKLET AP STRUCTURAL ENGINEERING



Written Test - 2024

(42)

Time Allowed: Three Hours

Maximum Marks: 120

# INSTRUCTIONS

- IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET **DOES NOT** HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS, ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
- Please note that it is the candidate's responsibility to encode and fill in the Roll Number and Test Booklet Series Code A, B, C or D carefully and without any omission or discrepancy at the appropriate places in the OMR Answer /Response Sheet. Any omission/discrepancy will render the Response Sheet liable for rejection.
- 3. You have to enter your Roll Number on the
  Test Booklet in the Box provided alongside.

  DO NOT write anything else on the Test Booklet.
- 4. This Test booklet contains 120 items (questions). Each item comprises of four responses (answers). You will select the response which you want to mark on the Answer Sheet/Response Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose ONLY ONE response for each item.
- You have to mark all your responses ONLY on the separate Answer /Response Sheet provided. See directions in the Response Sheet.
- 6. All items carry equal marks.
- Before you proceed to mark in the Answer /Response Sheet, the response to various items in the Test Booklet, you have to fill in some particulars in the Answer /Response Sheet as per instructions sent to you with your Admission Certificate.
- 8. After you have completed filling in all your responses on the Response Sheet and the examination has concluded, you should hand over to the Invigilator only the Answer /Response Sheet. You are permitted to take away with you the Test Booklet and Candidate's Copy of the Response Sheet.
- Sheets for rough work are appended in the Test Booklet at the end.
- While writing Centre, Subject and Roll No. on the top of the Answer Sheet/Response Sheet in appropriate boxes use "ONLY BALL POINT PEN".
- 11. Penalty for wrong answers:

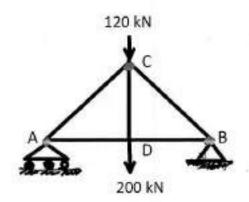
# THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY THE CANDIDATE IN THE WRITTEN TEST (OBJECTIVE TYPE QUESTIONS PAPERS).

- (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, (0.25) of the marks assigned to that question will be deducted as penalty.
- (ii) If a candidate gives more than one answer, it will be treated as a wrong answer even if one of the given answers happens to be correct and there will be same penalty as above for that question.
- (iii) If a question is left blank, i.e., no answer is given by the candidate, there will be no penalty for that question.

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO

(42) (A)/2024 [P.T.O.

1. What is the force in the vertical member CD of the pin-jointed frame shown below?



- A) 120 KN (Compression)
- B) 200 KN (Tension)
- C) 80 KN (Compression)
- D) 320 KN (Tension)

Match List-I(beam) with List-II (BMD) and select the correct answer using codes given below from the Lists:

List - I

- b. James 10 10/10
- c. francisco
- d. mmmme E

#### List - II

- 1.
- 2.
- 3.
- 4.

#### Codes

- a b c d
- A) 1 3 4 2
- B) 2 4 1 3
- C) 1 3 2 4
- D) 2 4 3 1

 Match the sequence of design of concrete mix as per IS:10262: 2019 and select the correct answer using the codes given below from List-I with List-II

## List - I

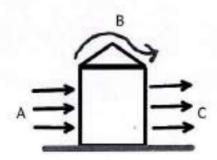
- a. Fine and coarse aggregate contents
- b. Water cement ratio
- c. Air Content
- d. Target strength
- e. Cement content
- f. Coarse aggregate proportion
- g. Water and admixture content

#### List - II

- Step 1
- Step 2
- Step 3
- Step 4
- Step 5
- Step 6
- 7. Step 7

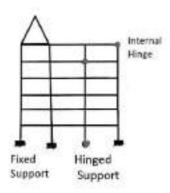
#### Codes

- a b c d e f g
- A) 1 2 3 4 5 6 7
- B) 2 4 3 5 7 1 6
- C) 7 2 3 1 5 6 4
- D) 7 2 1 5 7 6 3
- Suction pressure due to wind load over a building shown in elevation is

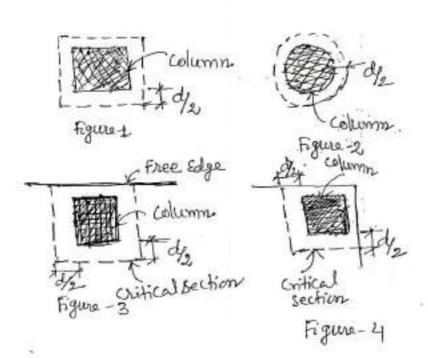


- A) A
- B) B
- C) C
- D) B and C
- Example of Institutional Building as defined in IS:875 part 1 -1987 is
  - A) College building
  - B) Theateres
  - C) Court room
  - D) Prisons

 The total (external + internal) degree of static indeterminacy of the plane frame shown in the given figure is

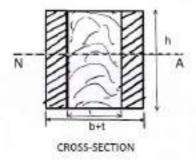


- A) 52
- B) 57
- C) 54
- D) 51
- Which one is the correct representation of a critical section in a two way shear in a plan of a raft foundations shown in figure 1 to figure 4



- A) Figure 1 and 3
- B) Figure 2
- C) Figure 1 and 2
- D) Figure 1, 2, 3 and 4

The figure below shows the cross-section of composite beam of timber and steel. The moment of inertia about neutral axis as timber equivalent beam is



- A)  $(b+t) h^3/12$
- B) bh3/12
- C)  $mbh^3/12 + th^3/12$
- D)  $bh^{3/12} + th^3/12m$
- Modulus of elasticity of high yield strength steel and thermos mechanical treated steel is about
  - A) 1.25
  - B) 2.25
  - C) 0.75
  - D) 1.00
- 10. Consider the following statements:

**Assertation (A):** In two-dimensional stress problem two stress system consists of two principal stresses  $\sigma_1$  and  $\sigma_2$  and plane strain problems  $\varepsilon_1 = \sigma_1/E$  and  $\varepsilon_1 = \sigma_2/E$ . Both the problems are similar.

Reason (R): Stress is proportional to strain.

#### Of these statements

- A) Both A and R are true and R is the correct explanation of A
- B) Both A and R are true but R is not a correct explanation of A
- C) A is true but R are false
- D) A is false but R is true

<ol><li>No twist of a section is caused by the transverse load if the load p</li></ol>	passes through
--	----------------

- A) Shear centre of the section
- B) Centroidal axis of the section
- C) Neutral axis of section
- D) C.G. of the section

## 12. The shear force on a beam section and the displacement are related by

A) 
$$V = EI \frac{d^2y}{dx^4}$$

B) 
$$V = EI \frac{d^3y}{d^3x}$$

C) 
$$V = EI \frac{d^4y}{dx^4}$$

D) None of the above

# 13. Example of grid structure is

- A) Coffer slab
- B) Flat slab
- C) Space frame
- D) Geodesic dome

## 14. The design of a structure on the basis of the lower bound theorem in plastic analysis is on the

- A) Upper bound side
- B) Unsafe side
- C) Safer side
- D) None of the above

# 15. Golden Gate bridge in San Francisco is

- A) Cable stayed structure
- B) Trussed structure
- Cable suspended structure
- D) Arched structure

16.	Minimum pitch of 16 mm diameter bolt is						
	A)	32 mm					
	B)	40 mm					
	C)	50 mm					
	D)	60 mm					
17.	The	The maximum total settlement for isolated foundation should be limited to					
	A)	A) 25 mm in clay soil and 65 mm in sandy soil					
	B)	40 mm in sandy soil and 65 mm in clay soil					
	C)	100 mm in sandy soil and 60 mm in clay soil					
	D)	75 mm in both sandy and clay soil					
18.	The	The nominal thickness of standard one brick (unplastered) wall is					
	A)	100 mm					
	B)	200 mm					
	C)	230 mm					
	D)	250 mm					
19.	The point at which a specimen elongates in tension test considerably without increasing the load is						
	A)	Permanent set					
	B)	Yield point					
	C)	Ultimate stress					
	D)	Final point					
20.		The relationship between Bulk modulus (K), Elasticity Modulus (E) and Poisson's ratio $(\mu)$ is					
	A) $K + 2E(1 - 2\mu)$						
	B)	$K = 3E(1 - 2\mu)$					
	C)	$E = 2K (1 + \mu)$					

21. Rock having clay as their major constituent are known as

A) Argillaceous rocks

 $E = 3K (1 - 2\mu)$ 

- B) Calcareous rocks
- C) Sedimentary rocks
- D) Siliceous rocks

D)

22.	Rat-trap bond developed by Laurie Baker (British born Indian architect) is similar to				
	A)	English bond			
	B)	Stretcher bond			
	(C)	Flemish bond			

- In case of a load bearing wall constructed using Portland cement or Portland pozzolana cement, slenderness ratio shall not exceed
  - A) 13

D)

- B) 20
- C) 27
- D) 35
- 24. The shell roof suitable for industrial roofing is
  - A) East light type

Raking bond

- B) West light type
- C) North light type
- D) South light type
- 25. Timber solid column is said to be intermediate if slenderness ratio is

$$K_{\rm s} = {\rm constant} \ {\rm equal} \ {\rm to} \ 0.584 \ \sqrt{\frac{E}{f_{\rm sp}}}$$

Where

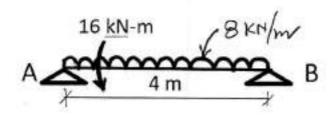
E= Modulus of Elasticity

 $f_{cp}$  = Compressive stress parallel grain

- A) Between 11 and K,
- B) Greater than K,
- C) Less than K,
- D) Equal to K.
- 26. The minimum ratio of span to deflection in wooden cantilever beam is
  - A) 150
  - B) 180
  - C) 360
  - D) 400

27.	A masonry shear wall is designed to resist						
	A)	) Shear force only					
	B)	Shear force and bending moment					
	C)	Axial force and shear force					
	D)	Axial force, shear force and bending moment					
28.	Permissible compressible stress depends upon						
	Area reduction factor and slenderness ratio						
	B)	Area reduction factor, shape modification factor and eccentricity of loading					
	C)	Area reduction factor, shape modification factor and stress reduction factor					
	D)	Slenderness ratio, eccentricity of loading and height to width ratio of units					
29.	The permissible compressible stress in burnt clay brick masonry is about————of the compressive strength of unit						
	A)	One third or less					
	B)	One sixth or less					
	C)	One eight or less					
	D)	One fifteenth or less					
30.	M20 nominal mix design as per IS456:2000 will be processed by adopting water cemer ratio of						
	A)	0.50					
	B)	0.60					
	C)	0.64					
	D)	0.70					
(42)	(A)	(10)					

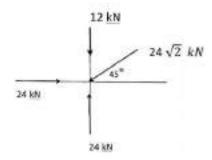
- Concrete in the member represented by a core test shall be considered acceptable if the average equivalent cube strength is equal to or greater than
  - A) 0.75
  - B) 0.80
  - C) 0.85
  - D) 1.00
- 32. A simply supported beam of span 4 m is subjected to uniformly distributed load of 8 kN/m over entire span and a moment of 16 kN-m near support A as shown in figure. The bending moment at centre of span is



- A) 8 kN-m (hogging)
- B) 8 kN-m (sagging)
- C) 12 kN-m (hogging)
- D) 12 kN-m (sagging)
- 33. In a simply supported beam of span I carrying a uniformly varying load from zero at right support to w kN/m at left. The maximum design bending moment for the beam is
  - A) w1<sup>2</sup>/12
  - B) 4w1<sup>2</sup> / 125
  - C)  $w1^2/9\sqrt{3}$
  - D) 2w12 / 125
- 34. When a rectangular beam is loaded longitudinally, shear develops on?
  - A) Bottom fibre only
  - B) Top fibre only
  - C) Vertical planes only
  - D) Every horizontal plane
- 35. A beam is said to be under pure bending if
  - All fibres experience uniform stress
  - B) Nature of stress in all fibres is same
  - The stress intensity in any fibre is directly proportional to the distance of the fibre from the neutral axis
  - D) None of the above

36.	Euler's formula is not valid for mild steel column when slenderness ratio is						
	A)	More than 80					
	B)	Less than 80					
	C)	More than 120					
	D)	More than 40					
37.	Condition for not to develop tension in the rectangular column, eccentricity should not be more than						
	A)	b/6					
	B)	b/8					
	C)	d/4					
	D)	d/3					
38.	The	The strain energy stored in a member when strained within limit is known as					
	A)	Resilience					
	B)	Modulus of resilience					
	C)	Both A and B					
	D)	None of the above					
39.	The angle of twist in shaft subjected to torsion is analogous to deflection in a beam under transverse forces can be considered as						
	A)	Strength of the shaft					
	B)	Stiffness of the shaft					
	C)	Elasticity of the shaft					
	D)	None of the above					
40.	The	Theoretical or linear arch is					
	A)	Line of action					
	B)	Centreline					
	C)	Line of horizontal reaction					
	D)	Line of thrust					
41.	Ran	Rankine's formula is valid for					
	A)	Short column					
	B)	Long column					
	C)	Intermediate column					
	D)	Short and long column					
(42)	(A)	(12)					

- 42. Force is a
  - A) Scaler quantity
  - B) Vector quantity
  - C) Linear quantity
  - D) None of the above
- 43. The moment of inertia of a triangular section of base b and height h about base parallel to centroidal axis is
  - A) bh<sup>3</sup>/12
  - B) bh<sup>3</sup>/36
  - C) bh<sup>3</sup>/6
  - D) hb<sup>3</sup>/12
- 44. Static friction is
  - A) Greater than dynamic friction
  - B) Less than dynamic friction
  - C) Equal to dynamic friction
  - D) None of the above
- 45. Free body diagram is the whole structure or part of the structure shown with
  - A) All internal forces acting on it
  - B) All actions
  - C) All actions and reactions acting on it
  - D) None of the above
- 46. The resultant of the coplanar concurrent force system shown in figure is



- A) 24 kN acting downwards
- B) Zero
- C) 20 kN acting horizontally from left to right
- D) 24 kN acting upwards
- For determining forces in the members of a truss by the method of substitution will be required if it is
  - A) Pratt type truss
  - B) Warren truss
  - C) Howe truss
  - D) Fink truss

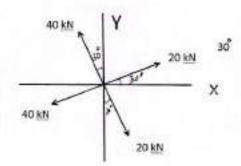
48. Force in member of simple determinate pin jointed truss can be determined by

- A) Method of joints
- B) Method of sections
- C) Graphical solutions
- D) All of the above

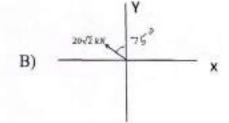
49. Effect of force on the body depends upon

- A) Direction
- B) Magnitude
- C) Positions
- D) All of the above

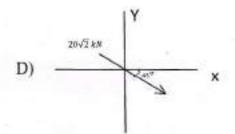
50. Four coplanar concurrent forces are acting at a point as shown in figure. The equilibrant of this force system is











51.	Match the sequence and select the correct answer using the codes given below fro List-I with List-II								
		Lis	st - I			List - II			
	a.	Arch in pure compression				1.	Equilibrium of concurrent forces		
	b.	Ce	ntre o	f Grav	rity	2.	Catenary		
	c.	The second secon				3.	Shape reverse of catenary		
	d.	Truss Analysis				4.	Parallel Forces		
		a b c d			d				
	A)	3	4	2	1				
	B)	2	1	3	4				
	C)	4	2	3	1				
	D)	1	3	4	2				
52.	Wh	Which of the following is cohesive soil?							
	A)		nkar		<del></del>				
	B)								
	C)								
	D)	Sand with clay							
53.	The	The minimum size of grains of silt soil is							
	A)	0.0							
	B)	0.006							
	C)								
	D)	0.0							
54.	The ratio of weight of water to the weight of solids of soil is called								
	A)								
	B)								
	C)	Spe	cific g	gravit	y				
	D)	- 50E	ter co	100					
55.	The	The specific gravity of sandy soil is							
	A) 2.2								
	B)								
	C)								
	Di	1.6							

(15)

(42) (A)

[P.T.O.

56.	The shear strength of a soil					
	A)	is proportional to the cohesion of the soil				
	B)	is proportional to the tangent of the angle of internal friction				
	C)	increase with the increase in normal stress of soil				
	D)	All of the above				
57.	The	net bearing capacity of soil is				

- A) Safe bearing capacity soil
- B) Safe bearing capacity minus pressure due to self-weight of foundation and backfill
- C) Ultimate bearing capacity divided by factor of safety
- D) None of the above

### 58. The angle of internal friction for cohesive soils is

- A) Zero
- B) 30°
- C) 45°
- D) 10°

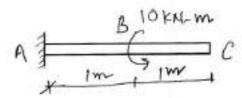
# 59. Floating foundation is a type of

- A) Well foundation
- B) Pile foundation
- C) Raft foundation
- D) Grillage foundation

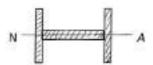
# 60. Pile foundations are mostly used

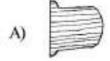
- A) In soft clayey soils
- B) Marshy land
- When required bearing area is not available
- D) All of the above

61. A circular shaft of diameter 50mm having shear modulus of 100 GPa is subjected to a torsional moment of 10kN-m at mid span B As shown in figure. What is the angle of twist at C



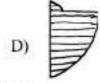
- A) Same as that of B
- B) Zero
- C) Double as that of B
- D) Half as that of B
- 62. Two shafts, one of hollow section and other is solid section made of same material and same cross-sectional area and of same length are subjected to same torsional moment. Shear stress developed in hollow section will be
  - A) Equal to that of solid section
  - B) More than that of solid section
  - C) Less than that of solid section
  - D) None of the above
- 63. Which one of the following diagrams indicates the shear distribution for the beam cross section shown in the figure below



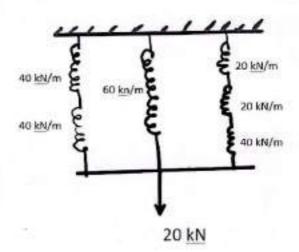






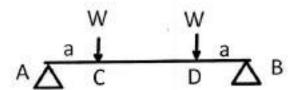


- 64. The study of forces and the displacement of bodies, geometry of the motion without addressing the cause of movement is known as
  - A) Kinetics
  - B) Kinematics
  - C) Solid mechanics
  - D) Statics
- 65. A 3 meter long cantilever beam is to carry a full span uniformly distributed load. If M.R capacity of the beam is 180 kN-m. The maximum uniformly distributed load inclusive of self weight of beam will be
  - A) 18 kN/m
  - B) 20 kN/m
  - C) 40 kN/m
  - D) 60 kN/m
- 66. What is the equivalent stiffness of the system for the system of springs shown in the figure



- A) 88
- B) 140
- C) 220
- D) 120

 Consider two point load test as a simply supported steel beam AB as shown in figure below



The portion CD of the beam is under

- A) Pure shear
- B) Pure bending
- C) Having maximum shear force
- D) None of the above

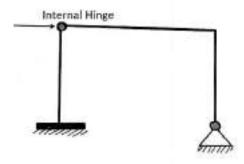
68. The Muller- Breslau Principle in structural analysis is used for

- A) Drawing deflected shape for any stress function for getting influence line diagram
- B) Considering free body diagram and superimposed loads
- C) For proving principle of virtual work done
- D) None of the above

69. Absolute stiffness of the beam if farther end is fixed is

- A) 3EI/L
- B) 4EI/L
- C) I/L
- D) 3EI/4L

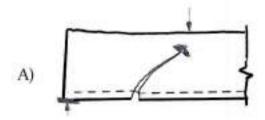
70. The kinematic indeterminacy of the portal frame shown in figure is



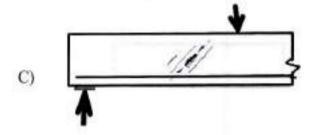
- A) 6
- B) 8
- C) 12
- D) 14

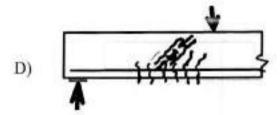
71.	Choose correct statement						
	A)	Fine sand bulks more than co	arse sand				
	B)	Maximum permissible starin	is the design crite	ria in limit state method			
	C)	Ultimate strength may be ach	nieved by steam cur	ing in 3 days			
	D)	All of the above					
72.		producing M15 grade nominal mix concrete as per IS 456 – 2000 amount of total and coarse aggregate is					
	A)	250					
	B)	270					
	C)	330					
	D)	480					
73.		The power of a telescope to form clear and distinct images of objective separated by smaller angular distance is known as					
	A)	Sensitivity					
	B)	Aperture					
	C)	Resolving power					
	D)	Magnifying power					
74.	Steel structure is better in resisting impact loads because they have high						
	A)	Toughness value					
	B)	Elastic modulus					
	C)	Plastic modulus					
	D)	Modulus of rigidity					
(42)	(A)		(20)				

75. Choose the correct option of shear tension failure from figure shown below









 Cube of size 150 mm × 150 mm × 150 mm and cylinder of diameter 150 mm and height 300 mm was tested at the age of 28 days.

#### Choose the correct statement

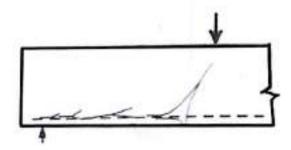
- A) Cube strength was about 25 % higher than cylindrical strength
- B) Cylindrical strength is actual strength of concrete
- C) Cube strength was governed by platten effect
- D) All of the above
- 77. Core test is conducted on prototype structure to determine
  - A) Equivalent cube Strength of concrete in structure
  - B) Approximate ratio test of ingredients
  - C) Petrographic examination
  - D) All of the above

	B)	Carbonation of concrete
	C)	Permeability of concrete
	D)	None of the above
79.		tement 1: Higher velocity is obtained in ultra pulse velocity test if concrete is dense, formly compacted and concrete is homogenious.
		tement 2: Lower velocity is obtained when concrete is poorly compacted and ontinuity in the path due to cracks.
	Cho	oose the correct statement
	A)	Statement 1 is correct
	B)	Statement 2 is correct
	C)	Statement 1 and 2 both are correct
	D)	None of the above
80.		tement 1: In impressed current cathodic protection; steel Act as cathode and other ductive material becomes anode.
	Stat	tement 2: Steel will remain in passive against corrossion if concrete PH is below 10.
	Cho	oose the correct statement
	A)	Statement 1 is correct
	B)	Statement 2 is correct
	C)	Statement 1 and 2 both are correct
	D)	None of the above
81.	Whi	ich of the following fiber has higher tension modulus?
	A)	Carbon
	B)	Aramid
	C)	Glass
	D)	Boron
(42)	(A)	(22)

78. Half cell potential measurement are done for

A) Corrossion of rebar

## 82. Identify the correct mode of shear failure



- A) Shear compression failure
- B) Shear tension failure
- C) Diagonal tension failure
- D) Web crushing failure

#### 83. Cracks in brick masonry in-filled frame due to seismic loads will appear as

- A) Diagonal cracks
- B) Vertical cracks
- C) Horizontal cracks
- D) None of the above

## 84. Shear wall are basically designed to provide

- A) Moment resistance capacity
- B) Axial resistance capacity
- C) Shear resistance capacity
- D) None of the above

## Shear failure in R.C.C. shear frame structure will occur in frame designed and detailed as per IS: 456-2000 when subjected to severe earthquake at

- A) Centre of beam
- B) Mid height of column
- C) Beam column joints
- D) Both A and B

86.	Ret	rofitting of structure
	A)	Increase stiffness
	B)	Increase ductility
	C)	Increase both stiffness and ductility
	D)	Decrease ductility and increase stiffness
87.	Flex	xure and shear strengthening of R.C.C beam are carried out
	A)	Tension face of the beam

- B) Comression face of the beam
- C) Side plates along the depth of beam
- D) Column beam slab junction

#### 88. Web Stiffener in plate girder may

- A) Increase moment resistance capacity
- B) Increase resistance against out of plane deformation
- C) Increase shear resistance
- D) None of the above

## 89. Inadequate curing of concrete may lead to

- A) Cracks
- B) Voids
- C) Decrease in strength
- D) All of the above

## 90. Corrossion in steel due to ingress of chloride

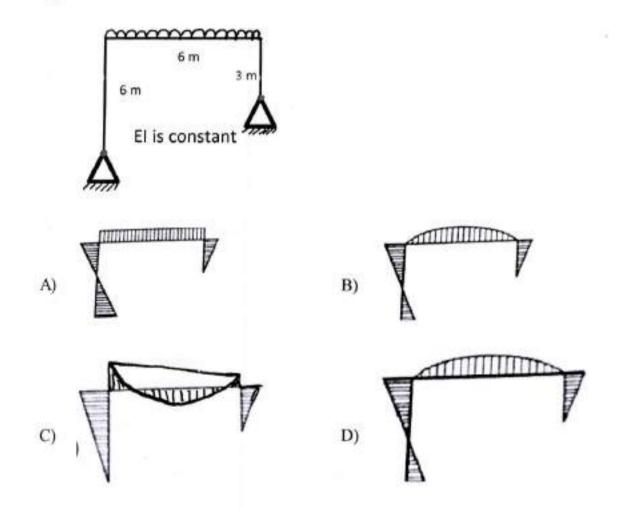
- A) Is more dangerous
- B) May cause localised failure
- C) May not show sign of spalling of concrete
- D) All of the above

 Statement 1: Alkali aggregate reaction will depends upon water is available in cement paste.

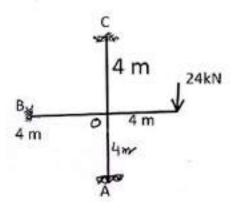
Statement 2: To reduce alkali aggregate reaction lime may be added to concrete mix.

#### Choose the correct statement

- A) Statement 1 is false
- B) Statement 2 is correct
- C) Statement 1 and 2 is correct
- D) Statement 1 is correct
- 92. The maximum slenderness ratio of lacing bar as per IS:800-2007 is
  - A) 135
  - B) 145
  - C) 150
  - D) 165
- Qualitative bending moment diagram on tension side for the portal frame shown in the figure will be



94. A frame loaded as shown in figure. The final end moment develop at support A due to fixity is



- A) 96 kNm
- B) 48 kNm
- C) 24 kNm
- D) 16 kNm

95. Standard grade concrete is

- A) M20 M40
- B) M20 M55
- C) M25 M45
- D) M25 M60

96. Factors not affecting durability of concrete structures is

- A) Shape and size of member
- B) Cement content
- C) Cover to embedded reinforcement
- D) Type of reinforcement

97. Neutral axis factor for Fe 500 grade steel in limit state method of design is

- A) 0.25
- B) 0.48
- C) 0.46
- D) 0.40

98.	The ratio of depth of web to width of flange of ordinary steel rolled beam section is approximately				
	A)	1 to 1.4			
	B)	1.3 to 1.55			
	C)	1.65 to 2			
	D)	2 to 3			
99.	Par	tial safety factor for fie	ld fabricated weld is		
	A)	1.10			
	B)	1.15			
	C)	1.25			
	D)	1.50			
100.		ich factor is denoted by	K <sub>4</sub> in the design calculation of v	wind speed from basic wind	
	A)	Probability factor			
	B)	Importance factor			
	C)	Topography factor			
	D)	Terrian roughness and	i height factor		
101.		oose the correct type of a	material used in viscous damper f	for dissipating energy due to	
	A)	Silicon based			
	B)	Copper based			
	C)	Petroleum based			
	D)	None of the above			
102.		경험이 [[] [[] [] [] [] [] [[] [] [] [] [] []	ncrease in structural cost of the	building if it is designed as	
	A)	5 to 10 %			
	B)	10 to 15 %			
	C)	15 to 20 %			
	D)	20 to 25 %			
(42)	(A)		(27)	[P.T.O.	

103.	Fou	ndation of buildings of Venice city in Italy which was constructed back in 421 AD i	S
	A)	Raft foundation	
	B)	Grillage foundation	
	C)	Pile foundation	

#### 104. Sandstone is a type of

D)

- A) Igneous rock
- B) Sedimentary rock
- C) Metamorphic rock
- D) None of the above

#### 105. The fineness of cement is obtained by

Inverted arch foundation

- A) Le Chateliers apparatus
- B) Specific surface air permeability method
- C) Vicat needle
- D) Normal consistency apparatus

# 106. Lime putty is

- A) Paste of slacked lime
- B) Paste of fat lime
- Paste of lime and flyash
- D) Paste of white cement

# 107. Gypsum is a

- A) Stable material
- B) Metastable material
- C) Slow setting material
- D) None of the above

108.	Ord A)	linary glass can resist temperature upto 100°C
	B)	200°C
	C)	400°C
	D)	800°C
109.	Star	ndard accepted basic module M is
	A)	100 mm
	B)	125 mm
	C)	150 mm
	D)	200 mm
110.	Prin	ciple of modular coordinate are
	A)	Basic module, modular dimension, planning module
	B)	Placing of components, modular grid
	C)	Preferred dimensions, tolerances
	D)	All of the above
111.	Mill	ennium dome of Thames England is a
12	A)	Dome structure
	B)	Membrane structure
()	C)	Geodesic dome
5750	D)	None of the above
112.	Арр	roximate loss of prestress due to creep in steel is
120	A)	Upto 5 %
	B)	Upto 8 %
	C)	Upto to 12%
	D)	Upto 16%

113.	The	total loss of prestressed pretensioned concrete
	A)	About 20%
	B)	15%
	C)	10%
	D)	0 %
114.	Hig	h strength steel and high grade concrete is used in prestressed concrete is
	A)	To compensate losses due to prestressing
	B)	To obtain high durability
	C)	To reduce requirement of steel and concrete
	D)	None of the above
115.	Pres	stressed electric poles are pretensioned with
	A)	Circular prestressing
	B)	Eccentric prestressing
	C)	Axial prestressing
	D)	None of the above
116.	The	magnitude of prestressing force is measured during prestressing process is
	A)	Pressure gauge
	B)	Extension of wire
	C)	Both A and B
	D)	None of the above
117.	Stat	tement 1: Passive earth pressure is much more higher than active earth Pressure
		tement 2: By increasing angle of friction of back fill lateral earth pressure also reases
	Cho	oose the correct statement
	A)	Statement 1 is true
	B)	Statement 2 is correct explanation of statement 1
	C)	Both statements are true
	D)	Statement 1 is false
(42)	(A)	(30)

C)	Aesthetic looking better
D)	None of the above
119. Fac	tor which are influencing fire resistance rating of reinforced concrete
A)	Grade of concrete, type of aggregate and member size
B)	Type of steel and cover to concrete
C)	Continuities and degree of indeterminacy of structure
D)	All of the above
120. Duc	etility in seismic design can measured quantitatively by
A)	Curvature at a particular section
B)	Rotation at selected joint
C)	Displacement of selected joint
D)	All of the above

118. Buttress type retaining wall with compare to counterfort type of retaining wall is

A) Less efficient

B) More efficient

# ROUGH WORK



(42) (A)

Booklet Serial No.

100277

Test Booklet Series

# TEST BOOKLET PHYSICAL TRAINING INSTRUCTOR (HED & GCET)



Written Test - 2024

(43)

Time Allowed: Three Hours

Maximum Marks: 120

#### INSTRUCTIONS

- IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET DOES NOT HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS, ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
- Please note that it is the candidate's responsibility to encode and fill in the Roll Number and Test Booklet Series Code A, B, C or D carefully and without any omission or discrepancy at the appropriate places in the OMR Answer /Response Sheet. Any omission/discrepancy will render the Response Sheet liable for rejection.
- You have to enter your Roll Number on the Test Booklet in the Box provided alongside.

DO NOT write anything else on the Test Booklet.

- 4. This Test booklet contains 120 items (questions). Each item comprises of four responses (answers). You will select the response which you want to mark on the Answer Sheet/Response Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose ONLY ONE response for each item.
- You have to mark all your responses ONLY on the separate Answer /Response Sheet provided. See directions in the Response Sheet.
- 6. All items carry equal marks.
- 7. Before you proceed to mark in the Answer /Response Sheet, the response to various items in the Test Booklet, you have to fill in some particulars in the Answer /Response Sheet as per instructions sent to you with your Admission Certificate.
- 8. After you have completed filling in all your responses on the Response Sheet and the examination has concluded, you should hand over to the Invigilator only the Answer /Response Sheet. You are permitted to take away with you the Test Booklet and Candidate's Copy of the Response Sheet.
- 9. Sheets for rough work are appended in the Test Booklet at the end.
- While writing Centre, Subject and Roll No. on the top of the Answer Sheet/Response Sheet in appropriate boxes use "ONLY BALL POINT PEN".
- 11. Penalty for wrong answers:

# THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY THE CANDIDATE IN THE WRITTEN TEST (OBJECTIVE TYPE QUESTIONS PAPERS).

- (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, (0.25) of the marks assigned to that question will be deducted as penalty.
- (ii) If a candidate gives more than one answer, it will be treated as a wrong answer even if one of the given answers happens to be correct and there will be same penalty as above for that question.
- (iii) If a question is left blank, i.e., no answer is given by the candidate, there will be no penalty for that question.

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO

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1.		which of the following body o	rgans is the growth	hormone releasing h	ormones		
	A)	Medulla Oblongata					
	B)	Islets of Langerhans					
	C)	Hypothalamus					
	D)	Suprarenal glands					
	· 74						
2.	0.0	e is a type of:					
	A)	Continuous variable					
	B)	Ordinal variable					
	C)	Nominal variable					
	D)	Discrete variable					
3.		primary focus of establishing the earch?	e cause-and-effect rel	lationship lies in whic	h type of		
	A)	Descriptive Research					
	B)	Survey Research					
	C)	Evaluation Research					
	D)	Experimental Research		40			
4.	A s	A synopsis of a study actually is its:					
	A)	Blue print					
	B)	Research report		5			
	C)	Research paper					
	D)	Summary					
5.		at term refers to the extent to whulations or settings?	hich a study's finding	gs can be generalized	to other		
	A)	Reliability					
	B)	Validity					
	C)	Transferability					
	D)	Generalizability					
6.	Whi	ich research design involves study od?	ying the same group o	findividuals over an e	extended		
	A)	Cross-sectional study					
	B)	Longitudinal study					
	C)	Retrospective study					
	D)	Case-control study					
(43)	(A)		(3)	10	IP.T.O.		

7.	Wha	at does a null hypothesis state in research?				
377900	A)	There is a relationship between variables				
	B)	There is no relationship between variables				
	C)	The results are significant				
	D)	The sample size is small				
8.	Wha	at is the primary goal of experimental research?				
	A)	To identify cause-and-effect relationships				
	B)	To confirm pre-existing hypotheses				
	C)	To gain insights and familiarity with a topic				
	D)	To inspect historical developments of a topic				
9	Whi	ch of the following is a qualitative research method?				
	A)	Laboratory research				
	B)	Case study				
	C)	Experiment				
	D)	Meta-analysis				
10.	In re	esearch, what does the term "internal validity" refer to?				
	A)	The extent to which study findings can be applied to other populations				
8	B)	The consistency and stability of the measurement instrument used				
	C)	The extent to which an experiment measures what it intends to measure				
	D)	The reliability of the research design employed				
11.	Wh	at does the term "normal distribution" refer to in statistics?				
	A)	A distribution where the mean and median are equal				
	B)	A distribution with equal probabilities for all outcomes				
	C)	A symmetrical bell-shaped distribution				
	D)	A distribution with a highly skewed shape				
12.		study examining the relationship between exercise and weight loss, what would be dependent variable?				
	A)	The duration of exercise				
	B)	The type of exercise				
	C)	The number of calories consumed				
	D)	The amount of weight lost				
13.	Which of the following is an example of a nominal level variable?					
	A)	Temperature in Celsius				
	B)	Height of individuals in centimetres				
	C)	Blood types (A, B, AB, O)				
	D)	Scores on a Likert scale from 1 to 5				
(43	(A)	(4)				

14.		What is the measure of central tendency that represents the most frequent value in a dataset?				
	A)	Mean				
	B)	Median				
	C)	Mode				
	D)	Range				
15.	Wh	en is quota sampling often used?				
	A)	When the population size is small				
	B)	When the population is heterogenous				
	C)	When the researcher has limited resources				
	D)	When the sample size is predetermined				
16.	The	brain and spinal cord belong to which division of the nervous system?				
	A)	Central Nervous System (CNS)				
	B)	Peripheral Nervous System (PNS)				
	C)	Somatic Nervous System (SNS)				
	D)	Autonomic Nervous System (ANS)				
17.	Whi	Which lever system resembles the action of standing on tiptoes?				
	A)	First-class lever				
	B)	Second-class lever				
	C)	Third-class lever				
	D)	Multi-class lever				
18.	Scie	ntific principles which govern theory and practice in Physical education emerge a sustained:				
	A)	Human insight and understanding				
	B)	Observation and experimentation				
	C)	Introspection and experience				
	D)	Thinking and contemplation				
19.	Whi	ch stage of development immediately follows infancy?				
	A)	Toddlerhood				
	B)	Adolescence				
	C)	Middle childhood				
	D)	Early childhood				
(43)	(A)	(5) [P.T.O.				

20	. Wh	at is the average age range for the eruption of primary teeth in infants?
	A)	2-3 months
	B)	6-10 months
	C)	12-18 months
	D)	24-30 months
21	. Eril	Erikson's theory of psychosocial development includes how many stages?
	A)	5
	B)	7
	C)	8
	D)	10
22	. Wh	at term describes the process of making new connections between neurons in the in?
	A)	Myelination
	B)	Synaptogenesis
	C)	Neurulation
	D)	Neurotransmission
23		ring which stage of Jean Piaget's cognitive development theory do children develop
	A)	Sensorimotor stage
	B)	Preoperational stage
	C)	Concrete operational stage
	D)	Formal operational stage
24		at is the term used for the developmental stage that spans from approximately to 19 years of age?
	A)	Middle childhood
	B)	Adolescence
	C)	Late childhood
	D)	Preadolescence
25		at is the term used for the reflex where an infant turns their head in response to cheek ng touched?
	A)	Rooting reflex
	B)	Moro reflex
	C)	Babinski reflex
	D)	Grasping reflex
(4	3) (A)	(6)

26.		In which stage of Kohlberg's moral development theory do individuals act to avoid punishment or gain rewards?				
	A)	Preconventional morality				
	B)	Conventional morality				
	C)	Postconventional morality				
	D)	Unconventional morality				
27.		at is the term used for the ra	pid and profound physica	l changes that occur during		
	A)	Menopause				
	B)	Puberty				
	C)	Andropause				
	D)	Climacteric				
28.	Wh	at theory emphasizes the impo	ortance of social interaction	ns in cognitive development?		
	A)	Attachment theory				
	B)	Socio cultural theory				
	C)	Psychosocial theory				
	D)	Behavioral theory				
29.		ich reflex in infants involves aching of the fists?	the extension and abduction	on of the arms followed by a		
	A)	Moro reflex				
	B)	Babinski reflex				
	C)	Stepping reflex				
	D)	Galant reflex				
30.	Acc for:	cording to Piaget, in the concre	te operational stage, childr	en start to develop the ability		
	A)	Abstract thinking				
	B)	Logical reasoning				
	C)	Symbolic thought				
	D)	Moral reasoning				
(43)	(A)		(7)	[P.T.O.		

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31.		ich body type is characterized by a naturally lean and slender build with a fast
	A)	Ectomorph
	B)	Mesomorph
	C)	Endomorph
	D)	Hypermorph
	D)	Пурстикири
32.		ording to the somatotype theory, which body type is considered the "ideal" or most otable for physical activity?
	A)	Ectomorph
	B)	Mesomorph
	C)	Endomorph
	D)	Dysplastic
33.	Acc	ording to humanism philosophy, what is emphasized in reality and life?
	A)	Individual's life experiences
	B)	Development of values through science
	C)	Personal growth and self-actualization
	D)	Universally shared truth and values
34.	Whi	ch type of EMG measures muscle activity during movement and dynamic activities?
372	A)	Intramuscular EMG
	B)	Surface EMG
	C)	Needle EMG
	D)	High-density EMG
35.	Wh	at is the typical unit of measurement for EMG signals?
SELECT.	A)	Millivolts (mV)
	B)	Hertz (Hz)
	C)	Newtons (N)
	D)	Decibels (dB)
36.	In the	ne context of heart, which of the following terms is incongruous with the other three as?
	A)	Pericardium
	B)	Periosteum
	C)	Myocardium
	D)	Endocardium
(43)	(A)	(8)

37.		ring which phase of training would an athlete focus more on skill refinement and ical strategies?					
	A)	Base phase					
	B)	Transition phase					
	C)	Competition phase					
	D)	Preparatory phase					
38.		at training principle involves gradually increasing training loads to prevent overtraining allow for adaptation?					
	A)	Specificity					
	B)	Overload					
	C)	Progression					
	D)	Variation					
39.	Osto	eokinematics is concerned with the:					
	A)	Study of forces applied to bones during movement					
	B)	Movement of bones around joint axes					
	C)	Movement of muscles during exercise					
	D)	Analysis of joint contact pressures					
	D)	Analysis of Joint confact pressures					
40.	Acc	According to Newton's first law of motion:					
	A)	An object at rest tends to stay at rest, while an object in motion tends to stay in motion unless acted upon by an external force					
	B)	Force equals mass times acceleration					
	C)	The rate of change of momentum of an object is proportional to the force acting on it					
	D)	For every action, there is an equal and opposite reaction					
41.		ch term best describes the linear and angular motion of the body without considering forces causing motion?					
	A)	Kinematics					
	B)	Dynamics					
-	C)	Statics					
	D)	Inertia					
(43)	(A)	(9) [P.T.O.					

42.	Dur	ing CPR on an adult, where should compressions be performed?
	A)	Below the ribcage
	B)	Above the belly button
	C)	Between the nipples
	D)	On the neck
43.	Whi	ch force opposes the motion of a projectile through the air, affecting its trajectory?
	A)	Centrifugal force
	B)	Drag force
	C)	Tension force
	D)	Elastic force
44.	Dur	ing a vertical jump, what does the "eccentric phase" refer to?
	A)	The descent or downward movement before take-off
57	B)	The initial push off the ground
	C)	The highest point reached in the jump
	D)	The landing phase after reaching maximum height
45.		high jump, what is the primary purpose of the "Fosbury Flop" technique in terms of nechanics?
	A)	To reduce air resistance during descent
	B)	To increase forward momentum
	C)	To optimize the take-off angle
	D)	To enhance the stability of the landing
46.	Prot	teins are made up of building blocks called:
0.5	A)	Amino acids
	B)	Monosaccharides
	C)	Nucleotides
	D)	Fatty acids
47.	Wh	ich essential nutrient plays a vital role in nerve function and muscle contractions?
	A)	Iron
	B)	Vitamin E
	C)	Magnesium
	D)	Zinc
(43)	(A)	(10)

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48.	Pate	ellofemoral syndrome is com	monly called:	
	A)	Jumper's Knee		
	B)	PES Anserinus Syndrome		
	C)	Runner's Knee		
	D)	Patellar Tendonitis		
49.		o proposed the social learning tarning?	theory, emphasizing the role of	of modelling and imitation
	A)	B.F. Skinner		
	B)	Albert Bandura		
	C)	Ivan Pavlov		
	D)	Jean Piaget		
50.	and	ording to Piaget's theory of cog is characterized by the unders not be seen, heard, or touched	standing that objects continu	
	A)	Sensorimotor stage		
	B)	Preoperational stage		7.
	C)	Concrete operational stage		
	D)	Formal operational stage		
51.		at type of learning involves the inforcement or punishment?	modification of behavior the	ough consequences, such
	A)	Observational learning		
	B)	Cognitive learning		
	C)	Operant conditioning		
	D)	Insight learning		
52.	Acc enga	ording to Self-Determination aging in an activity for the she f?	Theory (SDT), which type eer pleasure and satisfaction	e of motivation involves derived from the activity
	A)	Extrinsic motivation		
	B)	Introjected regulation		
	C)	Amotivation		
	D)	Intrinsic motivation		
53.		ch motivational theory focuse ific task or accomplish a parti		their ability to perform a
	A)	Self-Efficacy Theory	1990755865550	
	B)	Goal-Setting Theory		
	C)	Self-Determination Theory		
	DI	Two-Factor Theory		
	D)	Two Tuend Theray		

54.	Acc	ording to the Five Factor Model (Big Five), which trait describes someone who tends						
		e organized, reliable, and disciplined?						
	A)	Openness						
	B)	Extraversion						
	C)	Conscientiousness						
	D)	Agreeableness						
55	Acc	ording to Erik Erikson's theory, what is the primary developmental crisis during						
55.		lescence?						
	A)	Initiative vs. Guilt						
	B)	Autonomy vs. Shame and Doubt						
	C)	Industry vs. Inferiority						
	D)	Identity vs. Role Confusion						
56.	Wh	ich personality disorder is characterized by a pervasive pattern of disregard for and						
	viol	ation of the rights of others?						
	A)	Narcissistic personality disorder						
	B)	Antisocial personality disorder						
	C)	Borderline personality disorder						
	D)	Avoidant personality disorder						
57.	Wh	ich part of the brain is particularly associated with executive functions,						
	problem-solving, and decision-making, aspects often linked to intelligence?							
	A)	Cerebellum						
	B)	Amygdala						
	C)	Prefrontal cortex						
	D)	Hippocampus						
58.	The	The primary purpose of the AAHPER Youth Fitness Test Battery is to:						
	A)	Assess students' physical fitness						
	B)	Evaluate academic performance						
	C)	Monitor dietary habits						
	D)	Measure psychological well-being						
59.	Kno	ox skill test is associated with:						
10100	A)	Basketball						
	B)	Hockey						
	C)	Football						
	D)	Badminton						
60.	Wh	ich assessment utilizes a score comparison to a predefined standard for interpretation?						
CONTO	A)	Standardized test						
	B)	Norm-referenced test						
	C)	Criterion-referenced test						
	D)	Essay test						
(43)	(A)	(12)						
53 97	25 - 28							

61.	Whi	ch of the follo	wing is a he	alth related	l physica	al fitne	ss component?	
	A)	Speed						
	B)	Reaction tin	ne					
	C)	Body compo	osition					
	D)	Agility						
62.	Mat	ch the terms	of List- I wit	th that of I	.ist -II a	nd sele	ect the correct optio	n using the
	code	es given below	/2					
		List - I					List - II	
	a)	Anabolic ste	roid			1)	Atenolol	
	b)	Beta-blocke	r			2)	Codeine	
	c)	Diuretics				3)	Anadrol	
	d)	Narcotic and	algesics			4)	Metolazone	
		a	b	c	d			
	A)	(3)	(1)	(4)	(2)			
	B)	(2)	(3)	(1)	(4)			
	C)	(3)	(4)	(1)	(2)			
	D)	(1)	(2)	(4)	(3)			
63.	Arra	ange the follo	wing in chro	nological o	order of	their in	nception:	
	1)	보기(#1 <del>77)</del> (14.7) 보인 (16.1) (16.1)	Amrit Kaur co					
	2)		uncil of Spo	Participates and amount of the				
	3)				l Educati	ion and	Recreation	
	4)							
	1000000	A national syllabus for Physical activities     Options:						
	A)	(3), (1), (2),	(4)					
	B)	(1), (2), (3),						
	C)	(4), (2), (1),						
	D)	(4), (1), (2)						
64.	Wh	ich the follow	ing is the tes	st of Agility	y?			
	A)	Shuttle run						
	B)	Illinois test						
	C)	Both A & B						
	D)	None of the	ese					
65.		e out of the fo	llowing is no	ot a test of	Volleyba	ll, tha	t is:	
	A)	Brady test						
	B)	Russell-Lar						
	C)		Volley test					
	D)	Brumbach t	est					12040000000
(43)	(A)			(	13)			[P.T.O.

66.	Who	en resistance is located between Fulcrum and force, it would be called:				
	A)	Second class lever				
	B)	First class lever				
	C)	Third class lever				
	D)	None of the above				
67.	The	first day of Decathlon (Men) includes the events:				
	(I)	100 meters				
	(II)	Long jump				
	(III)	Shot put				
	(IV)	400 meters				
	Options:					
	A)	Only I & II				
	B)	Only III & IV				
	C)	I, II & III				
	D)	I, II, III & IV				
68.		greatest volume of air that can be expelled from the lungs after taking the deepest sible breath is called:				
	A)	Tidal volume				
	B)	Inspiratory reserve volume				
	C)	Vital capacity				
	D)	Expiratory reserve volume				
69.	A training method that includes distance running with bursts of harder running at more irregular points, lengths and speeds:					
	A)	Interval training				
	B)	Continuous training				
	C)	Circuit training				
	D)	Fartlek training				
70.	Which movement occurs around scapula while throwing a ball?					
	A)	Flexion				
	B)	Protraction				
	C)	Retraction				
	D)	Elevation				
71.	Whi	ch of the following is not a property of muscles?				
	A)	Contractility				
	B)	Excitability				
	C)	Elasticity				
	D)	Rigidity				
(43)	(A)	(14)				

	(43	) (A)	(15)	[P.T.O.
		D)	To evaluate blood pressure during physical activity	
		C)	To determine the resting heart rate	
		B)	To assess the maximum oxygen uptake during exercise	
		A)	To measure the maximum lung capacity	
	77.	Wha	at is the primary purpose of a VO2 max test?	
		- 1711 - 1000st-		A. A
		D)	Because of the absence of natural selection in human physical a	bilities
		C)	As a result of adaptations to different environmental demands	
*		B)	Owing to rapid genetic mutations in recent history	
		A)	Due to cultural influences shaping physical abilities	
•	76.	From	m an evolutionary perspective, why do humans possess varying at	nletic abilities?
		D)	The transformation of fossils over time	
		C)	Traits that enhance an organism's survival and reproduction in its	environment
		B)	Changes that occur due to artificial selection	
		A)	The process of creating new species	
	75.	Wha	at does the term "adaptation" refer to in the context of evolution?	
		D)	30 degrees	
		C)	120 degrees	
		B)	45 degrees	
		A)	90 degrees	
	74.		ing prolonged sitting, what angle should ideally be maintained between ips to promote good posture?	een the thighs and
		D)	II, III, I, IV	
		C)	III, IV, I, II	
		B)	IV, III, I, II	
		A)	I, II, III, IV	
		1.00	ions:	
		20 5	Collection of data	
		2000	Formulation of hypothesis	
		(II)	Interpretation of data	
		(I)	Analysis of data	
	73.		inge the following steps of research process in sequential order:	
		D)	Roentgenometery	
		C)	Jackson Pollock Equation	
		B)	Slaughter's Equation	
		A)	Heath-Carter method	
	72.	The	method to assess Somatotyping is:	

78.		at parameter does a pulse oximeter measure in cardio-pulmonary testing?
	A)	Heart rate variability
	B)	Blood oxygen saturation levels
	C)	Lung capacity
	D)	Blood glucose levels
79.	Dur	ing the Harvard Step Test, how long does the subject step up and down on a 20-inch?
	A)	2 minutes
	B)	5 minutes
	C)	10 minutes
	D)	8 minutes
		The second secon
80.	The	Dronacharya Award is presented to outstanding:
	A)	Sportsperson
	B)	Sports Managers
	C)	Coaches
	D)	Sports Journalists
81.	The	amount of blood pumped by the heart per beat refers to:
	A)	Stroke volume
	B)	Cardiac Output
	C)	Heart rate
	D)	Blood pressure
	19400	
82.	The	nutrition transporter in body is:
	A)	WBCs
	B)	RBCs
	C)	Plasma
	D)	Platelets
83.	Whi	ich of the following planes divide the body into right and left parts?
	A)	Transverse
	B)	Sagittal
	C)	Vertical
	D)	Coronal
(43)	(A)	(16)

84.	Wh	ich of the following is a hormone of stress?
	A)	Testosterone
	B)	Cortisol
	C)	Insulin
	D)	Endorphin
85.	Wh	at is the main aim of personal health education?
	A)	Focusing solely on physical health
	B)	Encouraging individuals to ignore mental health concerns
	C)	Promoting holistic well-being encompassing physical, mental, and social health
	D)	Prioritizing medical interventions over preventive measures
86.	Wh	at is the role of school health programs in preventing illnesses?
	A)	Administering medications to students
	B)	Teaching hygiene practices and disease prevention strategies
	C)	Conducting surgeries for students with chronic conditions
	D)	Providing emergency medical care only
87.	Puli	monary edema is a disorder in which there is an accumulation of fluid in the:
	A)	Alveoli
	B)	Skeletal tissues
	C)	Spinal cord
	D)	Testes
88.	Whi	ich vitamin is important for maintaining healthy skin and vision?
	A)	Vitamin D
	B)	Vitamin C
	C)	Vitamin A
	D)	Vitamin B 12
89.	Whi	ch type of wound involves tearing of the skin and underlying tissue?
	A)	Puncture wound
	B)	Abrasion
	C)	Laceration
	D)	Avulsion
90.	The	"Cooper 12-Minute Run Test" is designed to assess what aspect of physical health?
	A)	Muscular strength
	B)	Flexibility
	C)	Aerobic capacity
	D)	Balance
(43)	(A)	(17) [P.T.O.

91.	Whi	ch of the organs convert the lactic acid into pyruvic acid?
	A)	Pancreas
	B)	Liver
	C)	Spleen
	D)	Kidney
92.	Gall	oping is an example of:
	A)	Locomotor Movements
	B)	Non-locomotor skill
	C)	Manipulative skill
	D)	None of these
93.	Wha	at is the primary focus of Aristotle's treatise "De Motu Animalium"?
	A)	The dietary habits of animals
	B)	The reproduction patterns of animals
	C)	The movement of animals
	D)	The social behavior of animals
94.		at does kinematics primarily study in relation to motion?
	A)	Forces acting on a system
	B)	Space and time factors like velocity and acceleration
	C)	Changes in speed or direction per unit of time
	D)	Forces such as gravity and muscles
95.		ich of the following is NOT an electromagnetic energy modality?
	A)	Ultraviolet light
	B)	Ultrasound
	(C)	Low-power laser
	D)	Shortwave diathermy
96.		ed on their different characteristics, which of the following travels at greater velocity
		ough human tissue?
	A)	Sound energy Electromagnetic energy
	B) C)	Both A and B travel at the same rate.
	D)	Neither Anor B travels through human tissue.
97.	Wh	ich of the following type of cell has phagocytic characteristics?
	A)	Red blood cells
	B)	Platelets
	C)	Leukocytes
	D)	Endothelials
(43)	(A)	(18)
100		

98.	Whi	ich of the following is a contraindication for cryotherapy?
	A)	Acute pain
	B)	Skin anesthesia
	C)	Muscle spasm
	D)	Acute ligament sprain
99.		three to four stages of sensation following cold application, in order, are the owing:
	A)	sting, cold, burn/ache, numb
	B)	cold, sting, numb, burn/ache
	C)	burn/ache, cold, sting, numb
	D)	cold, sting, burn/ache, numb
100		ich training method involves alternating maximum intensity work with periods of or low activity?
	A)	Weight Training Method
	B)	Repetition Training Method
	C)	Cross Training Method
	D)	Interval Training Method
101	. Wh	at is the outcome of the adaptation process to a training load?
	A)	Decrease in performance capacity
	B)	Loss of interest in sports
	C)	Enhancement of performance capacity
	D)	Increased fatigue and sleep disorder
102	. Wh	at is the emphasis of tactical training in sports?
	A)	Improving overall physical fitness
	B)	Focusing solely on opponent analysis
	C)	Enhancing mental abilities
	D)	Improving strategies and utilizing abilities effectively
103	. Wh	ich part of the skeleton includes the bones of the limbs and girdles?
	A)	Axial skeleton
	B)	Appendicular skeleton
	C)	Vertebral column
	D)	Cranium
(42)	CAN	(19) [P.T.O.

104.	Thu	mb joint is an example of:					
	A)	Saddle Joint					
	B)	Hinge Joint					
	C)	Ball and Socket Joint					
	D)	Pivot Joint					
105.	Wha	at do agonist muscles primarily do during movement?					
	A)	They stabilize joints during movement					
	B)	They relax to allow movement to occur					
	C)	They act as secondary movers assisting the prime muscles					
	D)	They contract to produce the intended movement around a joint					
106.	The element essential for normal thyroid function is:						
	A)	Iodine					
	B)	Iron					
	C)	Copper					
	D)	Selenium					
107.	A philosophy that emphasizes the development of the full potential of each individual, Personal growth, self-actualization, and the development of values:						
	A)	Pragmatism					
	B)	Empiricism					
	C)	Idealism					
	D)	Humanism					
168.	Maximum amount of force that can be exerted by a muscle or muscle group against a resistance during a single contraction:						
	A)	Muscular endurance					
	B)	Muscular strength					
	C)	Muscular Atrophy					
	D)	Muscular stamina					
109.	An educational system that ensured the singular goal of serving the city-state, evolved in ancient Greece was:						
	A)	Agoge					
	B)	Palaestra					
	C)	Pancratium					
	D)	Paidotribes					
(43)	(4)	(20)					

	give	n belov				1 22 22
		List-			102	List-II
	a)	Zeus			1	
	b) Apollo c) Poseidon				3	
	d)	Zeus			4)	Nemean Games
	Coc	les:				
		a	ь	C	d	
	A)	(3)	(2)	(4)	(1)	2.7
	B)	(2)	(3)	(1)	(4)	
	C)	(1)	(2)	(3)	(4)	
	D)	(4)	(3)	(2)	(1)	
111.	Mat	ch the	terms o	of List -	I and Li	t -II and select the correct options using the code
		n belov				entropy and the trial production of the above the control of the state
		List-				List-II
	a)		iency		1	kind, or mode, of exercise performed
	b)	Inten	sity		. 2	how long, or the duration, a person should exercise
	c)	Time			3	how hard a person should exercise
	d) Type				4	how often a person should train
	Coc					
		a	b	c	d	
	A)	(3)	(2)	(4)	(1)	
	B)	(2)	(3)	(1)	(4)	
	C)	(4)	(3)	(2)	(1)	
	D)	(4)	(2)	(3)	(1)	
112.					and doct efers to:	ines from several philosophies into a consistent an
	A)		entialis			
	B)		matism	096		
	C)		cticism			
	D)		tarianis	m		
113.	Wh	ich of	the follo	owing e	nzymes	s secreted by the six salivary glands present in th
	hun	an mo	uth?			
	A)	Tryps	sin			
	B)	Amy				
	C)	Peps				
	D)	Lipas				

	114.	In W	hich sport India won gold medal in Tokyo Olympics-2020?			
		A)	Boxing			
		B)	Wrestling			
		C)	Shooting			
		D)	Athletics			
	115.	A ty	pe of diseases and health problems associated with physical inactivity and a sedentary			
		lifes	style:			
		A)	Hypokinetic Disease			
		B)	Bassen-Kornzweig syndrome			
		C)	Aplasia Cutis Congenita			
		D)	Yunis Varon Syndrome			
1	116.	anin	npetitions of trained gladiators, who used various types of weapons in battling captives, nals, or other gladiators were the features of:			
		A)	Ancient Greece			
		B)	Ancient Rome			
		C)	Ancient Sweden			
		D)	Ancient Denmark			
	117.	In th	ne context of first aid, what does the acronym "CPR" stands for?			
		A)	Cardiovascular Pressure Restoration			
		B)	Cardiopulmonary Resuscitation			
		C)	Centralized Patient Recovery			
		D)	Continuous Pain Relief			
	118.	18. Who among the following is associated with Swedish Gymnastics?				
		A)	Johann GutsMuths			
		B)	Adolf Spiess			
		C)	Per Henrik Ling			
		D)	Jean-Jacques Rousseau			
	119.	Wh	ile performing jumping jack, the exerciser uses leg abduction and adduction along r:			
		A)	Horizontal plane			
		B)	Lateral plane			
		C)	Median plane			
		D)	Transverse plane			
	120.	The	catalysts produced by human cells are called?			
		A)	Solutions			
		B)	Enzymes			
		C)	Reducing agents			
		D)	Ferments			

# ROUGH WORK

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(43) (A) (24)