

KENDRIYA VIDYALAYA SANGATHAN KOLKATA REGION

THIRD PRE-BOARD EXAMINATION 2019-2020

CLASS: XII

ECONOMICS (030)

Time allowed: 3 hours

Maximum Marks: 80

General instructions:

i	<i>All the questions in both the sections are compulsory. Marks for questions are indicated against each question.</i>
ii	<i>Question number 1 - 10 and 18 - 27 are very short-answer questions carrying 1 mark each. They are required to be answered in one word or one sentence each.</i>
iii	<i>Question number 11 - 12 and 28 - 29 are short-answer questions carrying 3 marks each. Answers to them should not normally exceed 60-80 words each.</i>
iv	<i>Question number 13 - 15 and 30 - 32 are also short-answer questions carrying 4 marks each. Answers to them should not normally exceed 80-100 words each.</i>
v	<i>Question number 16 - 17 and 33 - 34 are long answer questions carrying 6 marks each. Answers to them should not normally exceed 100-150 words each.</i>
vi	<i>Answer should be brief and to the point and the above word limit be adhered to as far as possible.</i>

SECTION - A (Macro Economics)

1	How can increase in foreign direct investment affect the price of foreign exchange?	1
2	Give meaning of Balance of Trade.	1
3	What will be the value of MPS if an increase in 100 crore investment results in an increase in income by 400 crore. a. 1 b. 0.5 c. 0.25 d. 0	1
4	Why money supply is a stock variable? OR State components of M_1 measure of money supply.	1
5	----- is the primary function of money. (store of value/medium of exchange)	1
6	Which one of the following is a Revenue Expenditure? a. Purchase of assets b. Loans advanced c. Subsidies d. Disinvestment	1
7	What is capital receipt?	1
8	With a rise in real national income, welfare of the people (choose correct option) a. Rises b. Falls c. Remains unchanged d. None of the above	1
9	In an economy, break-even point and equilibrium point may lie at the same level of	1

	income , if ex ante investments are ----- .																																								
10	What is inflationary gap in Macro Economics?	1																																							
11	How will you treat the following while estimating domestic product of a country? Give reasons for your answer. a) Profits earned by branches of country's bank in other countries b) Gifts given by an employer to his employee on the Independence Day. OR 'India's GDP is expected to expand 7.5% in 2019-20: World Bank" -The Economic Times. Does the given statement mean that welfare of people of India increase at the same rate? Comment with reason.	3																																							
12	An economy is in equilibrium. Calculate the investment expenditure from the following. National Income = 800 cr MPS = 0.3 Autonomous Consumption = 100 cr	3																																							
13	Comment whether the following will be included in revenue receipt /expenditure or capital receipt /expenditure and why, i) Interest payment ii) Disinvestment OR Elaborate 'economic growth' as objective of government budget.	4																																							
14	Explain the credit creation by commercial bank with an example.	4																																							
15	What is flexible exchange rate? How can the equilibrium flexible exchange rate be determined ?	4																																							
16	Explain Inflationary Gap with the help of a diagram. Explain any two monetary measures to control inflation. OR 'An economy is operating at under-employment level of income.' What is meant by the given statement? Discuss one fiscal and one monetary measure to tackle the situation.	6																																							
17	From the following data Calculate the a) GDP at factor cost b) Factor income to abroad <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>Sl.no</th> <th>Particulars</th> <th>In crores</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Gross Domestic Capital Formation</td> <td>600</td> </tr> <tr> <td>2</td> <td>Interest</td> <td>200</td> </tr> <tr> <td>3</td> <td>Gross National Product at market price</td> <td>2800</td> </tr> <tr> <td>4</td> <td>Rent</td> <td>300</td> </tr> <tr> <td>5</td> <td>Compensation of employees</td> <td>1600</td> </tr> <tr> <td>6</td> <td>Profits</td> <td>400</td> </tr> <tr> <td>7</td> <td>Dividends</td> <td>150</td> </tr> <tr> <td>8</td> <td>Factor Income from abroad</td> <td>50</td> </tr> <tr> <td>9</td> <td>Change in stock</td> <td>100</td> </tr> <tr> <td>10</td> <td>Net Indirect Tax</td> <td>240</td> </tr> <tr> <td>11</td> <td>Net Fixed Capital Formation</td> <td>400</td> </tr> <tr> <td>12</td> <td>Net Exports</td> <td>-(30)</td> </tr> </tbody> </table>	Sl.no	Particulars	In crores	1	Gross Domestic Capital Formation	600	2	Interest	200	3	Gross National Product at market price	2800	4	Rent	300	5	Compensation of employees	1600	6	Profits	400	7	Dividends	150	8	Factor Income from abroad	50	9	Change in stock	100	10	Net Indirect Tax	240	11	Net Fixed Capital Formation	400	12	Net Exports	-(30)	6
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SECTION-B (Indian Economic Development)																											
18	What are the two ways by which domestic industries can be protected from imports?		1																								
19	Which Indian industry was adversely affected due to partition?		1																								
20	Write any two advantages of Demonetization of currency in India.		1																								
21	Choose the correct option which is the correct match for the following <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">EVENTS</th> <th colspan="2">YEAR</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>First official census</td> <td>I</td> <td>1921</td> </tr> <tr> <td>B</td> <td>Demographic transition</td> <td>II</td> <td>1950</td> </tr> <tr> <td>C</td> <td>Introduction of railways in India</td> <td>III</td> <td>1850</td> </tr> <tr> <td>D</td> <td>Planning Commission</td> <td>IV</td> <td>1881</td> </tr> </tbody> </table> <p>a. A-III,B-I,C-IV,D-II b. A-IV,B-I,C-III,D-II c. A-II,B-I,C-II,D-IV d. A-IV,B-I,C-III,D-II</p>		EVENTS		YEAR		A	First official census	I	1921	B	Demographic transition	II	1950	C	Introduction of railways in India	III	1850	D	Planning Commission	IV	1881	1				
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22	Give the meaning of Human Capital. OR What is meant by Human capital?		1																								
23	Why has higher calorie intake fixed for calculating minimum needs for rural areas?		1																								
24	How has the supply-demand relationship led to degradation of environment?		1																								
25	During the period of 1991-2003, the planned investment in horticulture became highly productive and the sector emerged as a sustainable livelihood option. This period is known as.....		1																								
26	Give the meaning of Infant Mortality Rate.		1																								
27	Name two areas where Pakistan is ahead of India.		1																								
28	In the recent times electricity has become very expensive. Suggest some measures by which the consumption of electricity can be reduced in your locality. OR Give two reasons for increasing casualisation of workforce in India.		3																								
29	What dichotomy is found in relation to Indian Environmental crisis?		3																								
30	State the factors responsible for the downfall of indigenous handicraft industries during British rule.		4																								
31	Skill India Campaign launched in 2015 includes various initiatives of the GOI like 'National Skill Development Mission', 'Pradhan Mantri Kaushal Vikas Yojna(PMKVY) and the 'Skill Loan Scheme.' How do you see this beneficial to curb unemployment situation in India? OR 'Subsidies put a huge burden on Govt.'s finances, but are necessary for poor and marginal farmers". Do you agree that granting subsidies justify the objective of social justice?		4																								
32	Compare the position of India with China and Pakistan on the basis of sectoral composition. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4">Contribution to GDP(2015-17)</th> </tr> <tr> <th>Sector</th> <th>India</th> <th>China</th> <th>Pakistan</th> </tr> </thead> <tbody> <tr> <td>Agriculture</td> <td>17</td> <td>9</td> <td>25</td> </tr> <tr> <td>Industry</td> <td>30</td> <td>43</td> <td>21</td> </tr> <tr> <td>Service</td> <td>53</td> <td>48</td> <td>54</td> </tr> <tr> <td>Total</td> <td>100</td> <td>100</td> <td>100</td> </tr> </tbody> </table> Source: World Development Indicators,2016		Contribution to GDP(2015-17)				Sector	India	China	Pakistan	Agriculture	17	9	25	Industry	30	43	21	Service	53	48	54	Total	100	100	100	4
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33	<p>What is Sustainable Development? Discuss the strategies which should be followed to achieve sustainable development.</p> <p style="text-align: center;">OR</p> <p>Explain the three dimensional attack on poverty adopted by the Govt.</p>	6
34	<p>The Ministry of Micro, Small and Medium Enterprises (MSME) of Govt. of India is the apex body of formulation and administration of rules, regulations and laws relating to micro, small and medium enterprises in India which is very crucial for the economic development of India.</p> <p>Why do you think the small scale industries are crucial for economic development?</p>	6

KENDRIYA VIDYALAYA SANGATHAN KOLKATA REGION
THIRD PRE-BOARD EXAMINATION 2019-20
CLASS: XII
MATHEMATICS (Code: 041)

Time: 3 Hours

Maximum Marks: 80

General Instructions:

1. All the questions are compulsory.
2. The question paper consists of 36 questions divided into four sections A, B, C and D.
3. Section A comprises of 20 questions of 1 mark each. Section B comprises of 6 questions of 2 marks each. Section C comprises of 6 questions of 4 marks each. Section D comprises of 4 questions of 6 marks each.
4. There is no overall choice. However, an internal choice has been provided in three questions of 1 mark each, two questions of 2 marks each, two questions of 4 marks each and two questions of 6 marks each. You have to attempt only one of the alternatives in all such questions.
5. Use of calculators is not permitted.

Q. No.	<u>SECTION-A</u>	Marks
Q01–Q10 are multiple choice type questions. Select the correct option.		
01.	Let $f : \mathbb{R} \rightarrow \mathbb{R}$ be defined by $f(x) = 3x - 4$. Then $f^{-1}(x)$ is given by (a) $3x - 4$ (b) $3x + 4$ (c) $(x - 4) / 3$ (d) $(x + 4) / 3$	1
02.	The maximum number of equivalence relations on the set $A = \{1, 2, 3\}$ are (a) 3 (b) 5 (c) 6 (d) 8	1
03.	The domain of the function $\sin^{-1} x$ is (a) $[0, 1]$ (b) $[-1, 1]$ (c) $[-\pi, \pi]$ (d) $[0, \pi]$	1
04.	The principal value of $\cos^{-1}(1/2) - 2 \sin^{-1}(-1/2)$ is (a) $\pi/3$ (b) $\pi/6$ (c) $2\pi/3$ (d) 0	1
05.	If $A = \begin{bmatrix} 0 & 1 & -2 \\ -1 & 0 & 3 \\ x & -3 & 0 \end{bmatrix}$ is a skew-symmetric matrix, then the value of x is (a) 1 (b) 2 (c) -2 (d) -3	1
06.	If A is a matrix of order $m \times n$ and B is a matrix such that AB and BA are both defined. Then the order of the matrix B is (a) $m \times m$ (b) $m \times n$ (c) $n \times m$ (d) $n \times n$	1
07.	If A is a square matrix of order 3 and $ 2A = k A $, then the value of k is (a) 4 (b) 8 (c) 9 (d) 27	1
08.	If A and B are invertible matrices, then which of the following is not correct. (a) $\text{adj } A = A \cdot A^{-1}$ (b) $\det(A^{-1}) = [\det(A)]^{-1}$ (c) $(AB)^{-1} = B^{-1}A^{-1}$ (d) $(A + B)^{-1} = B^{-1} + A^{-1}$	1
09.	The function $f(x) = \begin{cases} \frac{\sin x}{x} + \cos x, & x \neq 0 \\ k, & x = 0 \end{cases}$ is continuous at $x = 0$, then the value of k is (a) 3 (b) 2 (c) 1 (d) 0	1

10.	Let $f(x) = \cos x $, then choose and write the correct option. (a) $f(x)$ is everywhere continuous but not differentiable at $x = n\pi, n \in \mathbb{Z}$. (b) $f(x)$ is everywhere continuous but not differentiable at $x = (2n+1)\pi/2, n \in \mathbb{Z}$. (c) $f(x)$ is everywhere differentiable. (d) None of these	1								
(Q11–Q15) Fill in the blanks.										
11	The point on the curve $y^2 = x$, where the tangent makes an angle of $\pi/4$ with x-axis is _____.	1								
	OR									
	The rate of change of the area of a circle with respect to its radius ' r ' when the radius $r = 3$ cm is _____.									
12.	$\int e^x(\tan x + 1) \sec x dx =$ _____.									
13.	The integral $\int \frac{\sin^6 x}{\cos^8 x} dx$ is equal to _____.	1								
	OR									
	The integral $\int \tan^4 x dx$ is equal to _____.									
14.	Corner points of the feasible region for an LPP are $(0, 2), (3, 0), (6, 0), (6, 8)$ and $(0, 5)$. Let $F = 4x + 6y$ be the objective function. Maximum value of F – Minimum value of $F =$ _____.	1								
15.	Let A and B be two events. If $P(A) = 0.2, P(B) = 0.4$ and $P(A \cup B) = 0.6$, then the value of $P(A/B)$ is _____.	1								
(Q16–Q20) Answer the following questions.										
16.	Find the integrating factor of the differential equation: $\frac{dy}{dx}(x \log x) + y = 2 \log x$.	1								
17.	Determine the order and degree of the differential equation: $\frac{d^2y}{dx^2} + 3\left(\frac{dy}{dx}\right)^2 - x^2 \log\left(\frac{d^2y}{dx^2}\right) = 0$.									
18.	Write the direction cosines of the vector $-2\hat{i} + 3\hat{j} - 6\hat{k}$.	1								
	OR									
	Write a vector of magnitude 9 units in the direction of $-2\hat{i} + \hat{j} + 2\hat{k}$.									
19.	Find the vector equation of the line which passes through the point $(2, -3, 5)$ and is parallel to the line $\frac{x-5}{3} = \frac{y+4}{7} = \frac{6-z}{2}$.	1								
20.	Evaluate $E(X^2)$ for the following probability distribution:	1								
	<table border="1" style="width: 100%; text-align: center;"> <tbody> <tr> <td>X</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>P(X)</td> <td>1/10</td> <td>1/5</td> <td>3/10</td> <td>2/5</td> </tr> </tbody> </table>		X	1	2	3	4	P(X)	1/10	1/5
X	1	2	3	4						
P(X)	1/10	1/5	3/10	2/5						
Q. No.	<u>SECTION-B</u>	Marks								
21.	If $y = \sqrt{\sin x + y}$, then find the value of $\frac{dy}{dx}$.	2								
22.	Using differentials, find the approximate value of $\sqrt[3]{65}$.	2								
	OR									
	Find the maximum value of $\left(\frac{1}{x}\right)^x$.									

23.	Find a vector of magnitude 6, which is perpendicular to both the vector $2\hat{i} - \hat{j} + 2\hat{k}$ and $4\hat{i} - \hat{j} + 2\hat{k}$.	2
24.	Find the value of λ when the projection of the vector $\vec{a} = \lambda\hat{i} + \hat{j} + 4\hat{k}$ on the vector $\vec{b} = 2\hat{i} + 6\hat{j} + 3\hat{k}$ is 4 units.	2
	OR	
	For any three vectors \vec{a} , \vec{b} and \vec{c} , find the value of $\vec{a} \times (\vec{b} + \vec{c}) + \vec{b} \times (\vec{c} + \vec{a}) + \vec{c} \times (\vec{a} + \vec{b})$.	
25.	If the x-coordinate of a point P on the joint of two points Q (2, 2, 1) and R (5, 1, -2) is 4, the find its z-coordinate.	2
26.	Events A and B are such that $P(A) = 1/2$, $P(B) = 7/12$ and $P(\text{not } A \text{ or not } B) = 1/4$. State whether events A and B are independent.	2
Q. No.	<u>SECTION-C</u>	Marks
27.	Let $f : \mathbb{N} \rightarrow \mathbb{R}$ be a function defined as $f(x) = 4x^2 + 12x + 15$. Show that $f : \mathbb{N} \rightarrow S$, where S is the range of f is invertible. Find the inverse of f.	4
28.	If $y^x = e^{y-x}$, then prove that $\frac{dy}{dx} = \frac{(1+\log y)^2}{\log y}$.	4
29.	Evaluate: $\int_{\pi/6}^{\pi/3} \frac{\sin x + \cos x}{\sqrt{\sin 2x}} dx$.	
	OR	
	Evaluate: $\int \frac{5x+3}{\sqrt{x^2+4x+10}} dx$.	
30.	Show that the differential equation $\left[x \sin^2\left(\frac{y}{x}\right) - y \right] dx + x dy = 0$ is homogeneous. Find the particular solution of this differential equation, given that $y = \pi/4$ when $x = 1$.	4
31.	A small firm manufactures gold rings and gold chains. The total number of rings and chains manufactured per day is at most 24. It takes 1 hour to make a ring and 30 minutes to make a chain. The maximum number of hours available per day is 16. If the profit on a ring is ₹ 300 and that on a chain is ₹ 190 that should be manufactured per day, so as to earn the maximum profit. Make it as an LPP and solve it graphically.	4
	OR	
	Minimize and Maximise the Objective Function $Z = 5x + 2y$ subject to the following constraints: $x - 2y \leq 2$; $3x + 2y \leq 12$; $-3x + 2y \leq 3$; $x \geq 0$; $y \geq 0$.	
32.	Of the students in a college, it is known that 60 % reside in hostel and 40 % are day scholars (not residing in hostel). Previous year results report that 30 % of all students who reside in hostel attain A grade and 20 % of day scholars attain A grade in their annual examination. At the end of the year, one student is chosen at random from the college and he has an A grade. What is the probability that the student is a hostlier?	4

Q. No.	SECTION-D	Marks
33.	Determine the product $\begin{bmatrix} 4 & 3 & 2 \\ 1 & 2 & 3 \\ 6 & 2 & 3 \end{bmatrix} \begin{bmatrix} 0 & -1 & 1 \\ 3 & 0 & -2 \\ -2 & 2 & 1 \end{bmatrix}$ and use it to solve the following system of linear equations: $4x + 3y + 2z = 60$; $x + 2y + 3z = 45$; $6x + 2y + 3z = 70$.	6
	OR	
	By using properties of determinants, prove that $\begin{vmatrix} a^2 + 1 & ab & ac \\ ab & b^2 + 1 & bc \\ ac & bc & c^2 + 1 \end{vmatrix} = 1 + a^2 + b^2 + c^2$.	
34.	Show that the height of the cylinder of the maximum volume, that can be inscribed in a sphere of radius R is $\frac{2R}{\sqrt{3}}$. Also, find the maximum volume.	
35.	Find the area of the region $\{(x, y): y^2 \leq 6ax \text{ and } x^2 + y^2 \leq 16a^2\}$, using the method of integration.	6
36.	Find the coordinate of the foot of the perpendicular and the length of the perpendicular drawn from the point P (5, 4, 2) to the line $\vec{r} = (-\hat{i} + 3\hat{j} + \hat{k}) + \lambda(2\hat{i} + 3\hat{j} - \hat{k})$. Also, find the image of the point P in this line.	6
	OR	
	Find the vector equation of the plane passing through three points with position vectors $\hat{i} + \hat{j} - 2\hat{k}$, $2\hat{i} - \hat{j} + \hat{k}$ and $\hat{i} + 2\hat{j} + \hat{k}$. Also, find the coordinates of the point of intersection of this plane and the line $\vec{r} = (3\hat{i} - \hat{j} - \hat{k}) + \lambda(2\hat{i} - 2\hat{j} + \hat{k})$.	

KENDRIYA VIDYALAYA SANGATHAN KOLKATA REGION
केन्द्रीय विद्यालय संगठन कोलकाता संभाग
THIRD PRE-BOARD EXAMINATION (2019-2020)

तृतीय प्री- बोर्ड परीक्षा 2019-20
SUBJECT-GEOGRAPHY THEORY विषय- भूगोल सैद्धांतिक

CLASS कक्षा--XII

Time: 3 hours समय 3 घंटे

Max. Marks अधिकतम अंक 70

General Instructions:

- i. There are 30 questions in all.
- ii. All questions are compulsory.
- iii. Question numbers 1 to 18 are Multiple Choice Questions (MCQs) carrying 1 mark each. Write only the correct answer in your answer sheets.
- iv. Question numbers 19 to 22 are short answer questions carrying 3 marks each. Answer to each of these questions should not exceed 80-100 words.
- v. Question numbers 23 to 28 are long answer questions carrying 5 marks each. Answer to each of these questions should not exceed 150 words.
- vi. Question numbers 29 and 30 are related to identification or location and labeling of geographical features on maps, carrying 5 marks each.
- vii. Outline map of India and World provided to you must be attached within your answer book.
- viii. Use of template or stencils for drawing outline maps is allowed.

सामान्य निर्देश ;

- i. सभी में 30 प्रश्न हैं।
- ii. सभी प्रश्न अनिवार्य हैं।
- iii. प्रश्न संख्या 1 से 18 बहुविकल्पीय प्रश्न (MCQs) हैं, जिनमें से प्रत्येक में 1 अंक है। अपनी उत्तर पुस्तिकाओं में केवल सही उत्तर लिखें।
- iv. प्रश्न संख्या 19 से 22 लघु उत्तर प्रश्न हैं, जिनमें से प्रत्येक में 3 अंक हैं। इनमें से प्रत्येक प्रश्न का उत्तर 80-100 शब्दों से अधिक नहीं होना चाहिए।
- v. प्रश्न संख्या 23 से 28 तक दीर्घ उत्तरीय प्रश्न हैं जिनमें से प्रत्येक में 5 अंक हैं। इनमें से प्रत्येक प्रश्न का उत्तर 150 शब्दों से अधिक नहीं होना चाहिए।
- vi. प्रश्न संख्या 29 और 30 मानचित्रों पर भौगोलिक विशेषताओं की पहचान या स्थान और लेबलिंग से संबंधित हैं, जिनमें से प्रत्येक में 5 अंक हैं।
- vii. आपको प्रदान की गई भारत और विश्व की रूपरेखा का नक्शा आपकी उत्तरपुस्तिका में संलग्न होना चाहिए।
- viii. रूपरेखा मानचित्रों को खींचने के लिए टेम्पलेट या स्टेंसिल का उपयोग करने की अनुमति है।

SECTION A (खंड क)

1. Which one of the following is not an area of sparse population? 1

- A. Atacama
- B. South East Asia
- C. Equatorial Region
- D. Polar Region

निम्नलिखित में से कौन एक विरल आबादी का क्षेत्र नहीं है?

- A. आटाकामा
- B. दक्षिण पूर्व एशिया
- C. भूमध्यरेखीय क्षेत्र
- D. ध्रुवीय क्षेत्र

2. Which region of Japan is thickly populated due to presence of large number of industries? 1

- A. Kobe Region
- B. Osaka Region
- C. Kobe Osaka Region
- D. Tokyo Region

जापान का कौन सा क्षेत्र बड़ी संख्या में उद्योगों की उपस्थिति के कारण घनी आबादी वाला है

- A. कोबे क्षेत्र
- B. ओसाका क्षेत्र
- C. कोबे ओसाका क्षेत्र
- D. टोक्यो क्षेत्र

3. Identify the country which is not an example of expanding population of age sex pyramid 1

- A. Nigeria
- B. Japan
- C. Bangladesh
- D. Mexico

उस देश की पहचान करें जो उम्र के लिंग पिरामिड की आबादी के विस्तार का उदाहरण नहीं है

- A. नाइजीरिया
- B. जापान
- C. बांग्लादेश
- D. मेक्सिको

4. Which one of following scholars introduced the concept of Human Development? 1

- A. Prof Amartya Sen
- B. Ellen C Semple
- C. Dr Mahabub-UI-Haq
- D. Ratzel

OR

Which one of the following is NOT the approach to Human Development?

- A. Income Approach
- B. Welfare Approach
- C. Sustainability Approach
- D. Capability Approach

निम्नलिखित में से किस विद्वान ने मानव विकास की अवधारणा पेश की?

- A. प्रो अमर्त्य सेन
- B. एलेन सी सेमपल
- C. डॉ. महबूब-उल-हक
- D. रैटजेल

या

निम्नलिखित में से कौन मानव विकास का उपागम नहीं है?

- A. आय उपागम
- B. कल्याण उपागम
- C. सततपोषणीयता उपागम
- D. क्षमता उपागम

5. Cultivation of food and fodder crops is called_____.

1

- A. Truck Farming
- B. Factory farming
- C. Mixed Farming
- D. Floriculture

खाद्य फसलों तथा चारे की खेती _____ कहलाता है।

- A. ट्रक की खेती
- B. कारखाना खेती
- C. मिश्रित खेती
- D. फूलों की खेती

6. Which one of following is not a plantation crop ?

1

- A. Coffee
- B. Wheat
- C. Sugarcane
- D. Rubber

निम्नलिखित में से कौन एक रोपण कृषि का फसल नहीं है ?

- A. कॉफ़ी
- B. गेहूँ
- C. गन्ना
- D. रबर

7. Most of the world's great ports are classified as

1

- A. Naval ports
- B. Oil ports
- C. Comprehensive port
- D. Industrial port

दुनिया के अधिकांश वृहत पत्तनों को _____ के रूप में वर्गीकृत किया गया है

- A. नौसेना के बंदरगाह
- B. तेल बंदरगाहों
- C. व्यापक बंदरगाह
- D. औद्योगिक बंदरगाह

8. In which of the following trade blocs is India an associate member? 1

- A. SAFTA
- B. ASEAN
- C. OECD
- D. OPEC

निम्नलिखित में से किस व्यापार क्षेत्र में भारत एक सहयोगी सदस्य है?

- A. साफ्टा
- B. आसियान
- C. ओइसीडी
- D. ओपेक

9. Which one of the following countries has the highest sex ratio in the world?1

- A. Latvia
- B. United Arab Emirates
- C. Japan
- D. France

निम्नलिखित में से किस देश में दुनिया में सबसे ज्यादा लिंगानुपात है?

- A. लाटविया
- B. संयुक्त अरब अमीरात
- C. जापान
- D. फ्रांस

10. Which one of the following states has the highest proportion of urban population in India according to census 2011? 1

- A. Tamil Nadu
- B. Kerela
- C. Maharashtra
- D. Goa

OR

A person who works for at least 183 days is called_____.

- A. Marginal Worker
- B. Main Worker
- C. Worker
- D. Non Worker

निम्नलिखित में से कौन सा राज्य 2011 की जनगणना के अनुसार भारत में शहरी आबादी का उच्चतम अनुपात है?

- A. तमिलनाडु
- B. केरल
- C. महाराष्ट्र
- D. गोवा

या

एक व्यक्ति जो कम से कम 183 दिनों के लिए काम करता है, उसे _____ कहा जाता है।

- A. सीमांत मज़दूर
- B. मुख्य मज़दूर
- C. मज़दूर
- D. गैर मज़दूर

11. Which one of the following Union Territories of India has the highest literacy rate? 1

- A. Lakshadweep
- B. Chandigarh
- C. Daman and Diu
- D. Andaman and Nicobar Island

निम्नलिखित में से भारत के किस केंद्र शासित क्षेत्र में साक्षरता दर सबसे अधिक है?

- A. लक्षद्वीप
- B. चंडीगढ़
- C. दमन और दीव
- D. अंडमान और निकोबार द्वीप

12. Which one of the following towns is not located on the bank of a river? 1

- A. Agra
- B. Bhopal
- C. Patna
- D. Kolkata

निम्नलिखित में से कौन सा शहर नदी के किनारे स्थित नहीं है?

- A. आगरा
- B. भोपाल
- C. पटना
- D. कोलकाता

13. Which one of the following is cultivated in Rabi cropping season in North India? 1

- A. Gram
- B. Cotton
- C. Rice
- D. Bajra

रबी फसल के मौसम में निम्नलिखित में से किसकी खेती उत्तर भारत में की जाती है?

- A. चना
- B. कपास
- C. चावल
- D. बाजरा

14. Which one of the following is the main form of degradation in irrigated area? 1

- A. Gully Erosion
- B. Wind Erosion

- C. Salinization of Soil
- D. Siltation

निम्नलिखित में से कौन सी सिंचित क्षेत्र में मृदा निम्नीकरण का मुख्य रूप है?

- A. अवनालिका अपरदन
- B. वायु अपरदन
- C. मृदा लवणता
- D. गाद का जमाव

15. Which is not a factor of industrial location?

1

- A. Market
- B. Capital
- C. Soil
- D. Power

निम्नलिखित में से कौन सा एक औद्योगिक अवस्थिति का कारक नहीं है?

- A. मंडी
- B. पूंजी
- C. मृदा
- D. उर्जा

16. Identify the partner states of the construction of Konkan Railway.1

- A. Gujarat- Maharashtra- Goa
- B. Maharashtra- Goa- Karnataka
- C. Goa – Karnataka- Kerala
- D. Goa-Karnataka -Tamilnadu

कोंकण रेलवे के निर्माण के भागीदार राज्यों की पहचान करें।

- A. गुजरात, महाराष्ट्र, गोवा
- B. महाराष्ट्र, गोवा, कर्नाटक
- C. गोवा, कर्नाटक, केरल
- D. गोवा, कर्नाटक तमिलनाडु

17. Identify the stretch of National Waterway 2 (NW2)

1

- A. Allahabad to Haldia
- B. Allahabad to Delhi
- C. Sadia to Dhubri
- D. Kottapuram to Kollam

राष्ट्रीय जलमार्ग.मार्ग-2 के विस्तार को पहचानें।

- A. इलाहाबाद से हल्दिया
- B. इलाहाबाद से दिल्ली
- C. सदिया से धुबरी
- D. कोट्टापुरम से कोल्लम

18. Which port was developed to relieve the pressure of Chennai Port? 1

- A. Paradeep Port
- B. Vishakhapatnam Port
- C. Haldia Port
- D. Tuticorin Port

OR

Most of the India's Foreign Trade is carried out through _____.

- A. Land and Sea
- B. Sea and Air
- C. Land and Air
- D. Sea

चेन्नई बंदरगाह के दबाव को दूर करने के लिए किस बंदरगाह का विकास किया गया था?

- A. पारादीप पत्तन
- B. विशाखापट्टनम पत्तन
- C. हल्दिया पत्तन
- D. तूतीकोरिन पत्तन

या

भारत के अधिकांश विदेशी व्यापार _____ के माध्यम से होता है।

- A. भूमि और समुद्र
- B. समुद्र और वायु
- C. भूमि और वायु
- D. समुद्र

SECTION B (खंड - ख)

19. Distinguish between Environmental Determinism and possibilism. 3
पर्यावरणीय निश्चयवाद एवं संभववाद में अंतर स्पष्ट करे।
20. Discuss the any one economic and two environmental problems associated with urban settlements in developing countries. 3
विकासशील देशों में नगरीय बस्तियों की एक आर्थिक एवं दो पर्यावरणीय समस्याओं की विवेचना करें।
21. Distinguish between Push factor and Pull factor of Migration. 3
प्रवास के प्रतिकर्ष कारक तथा अपकर्ष कारक में अंतर स्पष्ट करे।
22. Discuss the activities which have been proposed under Jal Kranti Abhiyan launched by Govt of India in 2015-16. 3
भारत सरकार द्वारा 2015-16 में आरंभ किए गए जल क्रांति अभियान की प्रमुख गतिविधियों की विवेचना करें।

OR

What is watershed management? Do you think it can play an important role in sustainable development?

जल – संभर प्रबंधन क्या है? क्या आप सोचते हैं कि यह सतत पोषणीय विकास में एक महत्वपूर्ण भूमिका अदा कर सकता है ?

SECTION C (खंड – ग)

23. What do mean **by the term “Manufacturing”**. Explain any four characteristics of Modern Large Scale Manufacturing. 1+4=5
विनिर्माण शब्द का क्या अर्थ है ? आधुनिक बड़े पैमाने पर होने वाले विनिर्माण की किन्ही चार विशेषताओं की व्याख्या करे।

OR

Classify different types of industries on the basis of raw materials used.

कच्चे माल के उपयोग के आधार पर विभिन्न प्रकार के उद्योगों का वर्गीकरण करें।

a. What is Medical Tourism? Explain any four factors affecting tourism.

1+4=5

चिकित्सा पर्यटन क्या है ? पर्यटन को प्रभावित करने वाले किन्हीं चार कारकों की व्याख्या करें।

24. **Elucidate the statement "In a well-managed transport system, various modes complement each other"** 5

"एक अच्छी तरह से प्रबंधित परिवहन प्रणाली में, विभिन्न मोड एक दूसरे के पूरक हैं" कथन को स्पष्ट करें

OR

What is Trans Continental Railway? Explain important features of Trans Canadian Railways.

ट्रांस कॉन्टिनेंटल रेलवे क्या है? ट्रांस कैनेडियन रेलवे की महत्वपूर्ण विशेषताएं बताएं।

25. Distinguish between Conventional and Non Conventional Sources of Energy. 5

ऊर्जा के पारंपरिक और गैर पारंपरिक स्रोतों के बीच भेद कीजिये।

26. Describe five main points of the Integrated Tribal Development Projects implemented in Bharmour region. 5

भरमौर क्षेत्र में लागू एकीकृत आदिवासी विकास परियोजनाओं के पांच मुख्य बिंदुओं का वर्णन करें।

OR

Describe any five measures needed for the promotion of Sustainable Development in the Indira Gandhi Canal Command Area.

इंदिरा गांधी नहर कमान क्षेत्र में सतत विकास को बढ़ावा देने के लिए आवश्यक किसी भी पांच उपायों का वर्णन करें।

27. Describe major Problems associated with Urban Waste Management. 5

OR

Describe any five problems of slums in India.

शहरी अपशिष्ट प्रबंधन से जुड़ी प्रमुख समस्याओं का वर्णन करें।

या

भारत में गंदी बस्तियाँ की किन्हीं पाँच समस्याओं का वर्णन करें।

28. On the outline map of India mark and indicate the following features (Answer any five) 5

- A. State having highest population density
- B. Manganese mines of Karnataka
- C. Bauxite mines of Odisha
- D. Iron and Steel Industry in Chhattisgarh
- E. Software Technology Park in Punjab
- F. Eastern most Terminal of East West Corridor
- G. International Airport of Kerala.

भारत के दिये गये राजनीतिक रेखा मानचित्र पर निम्न विशेषताओं को इंगित करें:

- A. सर्वाधिक जनसंख्या घनत्व वाला राज्य
- B. कर्नाटक की मैंगनीज खदानें
- C. ओडिशा की बॉक्साइट खदानें
- D. छत्तीसगढ़ में लोहा और इस्पात उद्योग
- E. पंजाब में सॉफ्टवेयर टेक्नोलॉजी पार्क
- F. ईस्ट वेस्ट कॉरिडोर का सबसे पूर्वी टर्मिनल
- G. केरल का अंतर्राष्ट्रीय हवाई अड्डा।

29. On the given political map of the world, following five features are shown. Identify these features with the help of the given key and write them on the blanks marked **A**, **B**, **C**, **D** and **E** 5

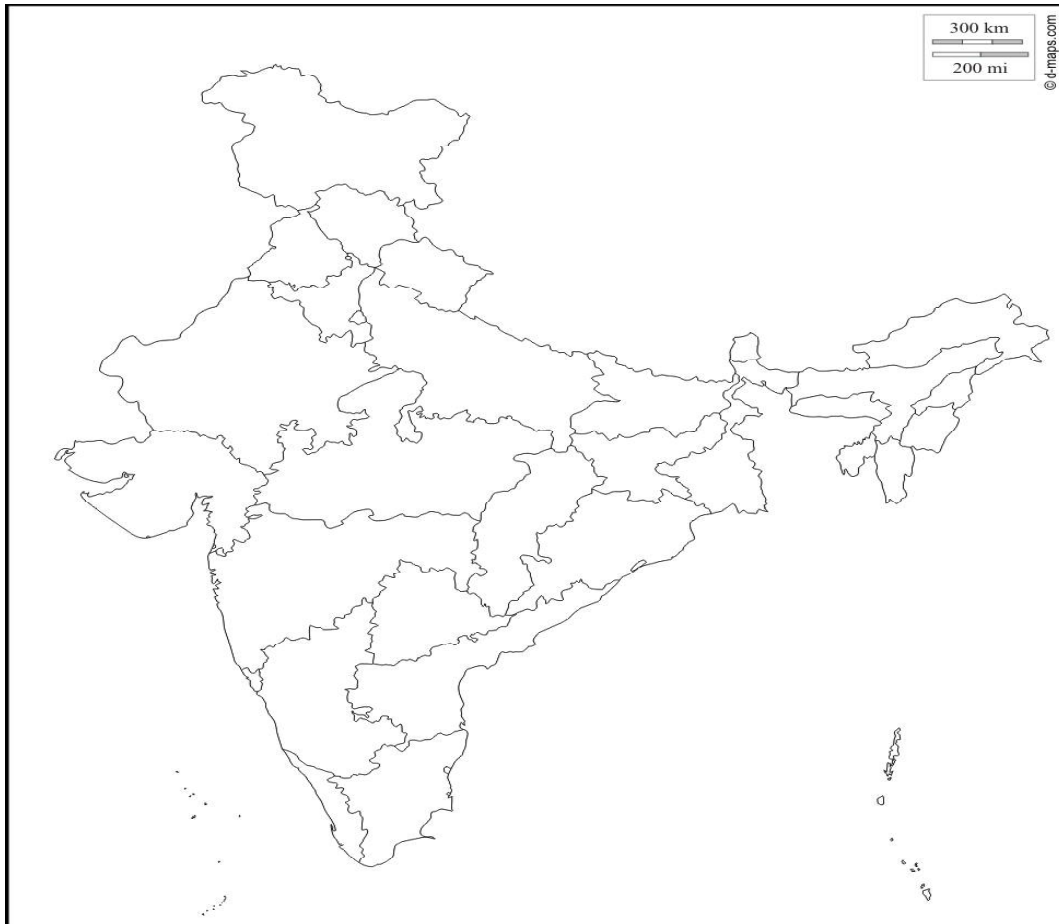
- A. The largest country of Africa in terms of area
- B. An Industrial Region of North America
- C. The terminal station of Trans Australian Railway
- D. A major airport of Europe
- E. A Mega City

दुनिया के दिए गए राजनीतिक मानचित्र पर, पांच विशेषताओं को दिखाया गया है। दिए गए कुंजी की मदद से इन विशेषताओं को पहचानें और ए, बी, सी, डी और ई के रिक्त स्थान पर लिखें

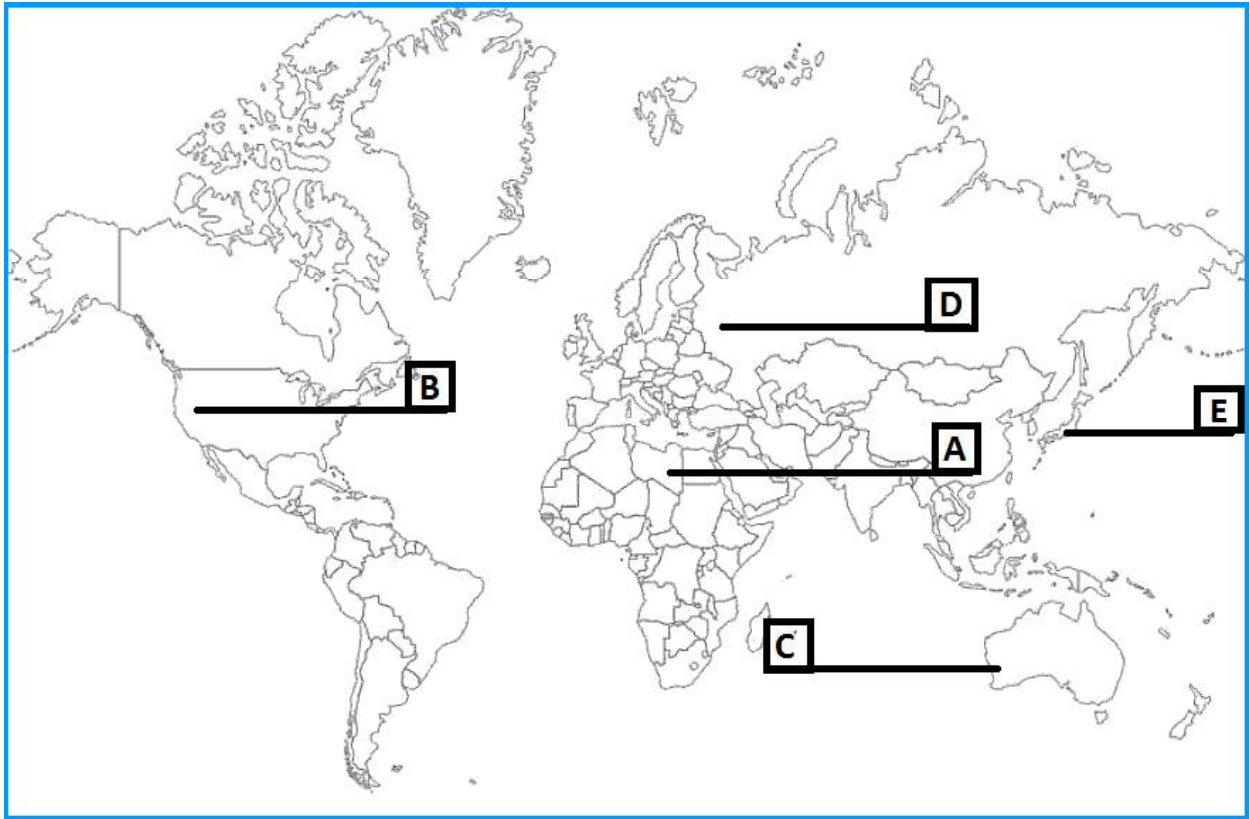
- A. क्षेत्रफल की दृष्टि से अफ्रीका का सबसे बड़ा देश
- B. उत्तरी अमेरिका का एक औद्योगिक क्षेत्र
- C. ट्रांस ऑस्ट्रेलियाई रेलवे का टर्मिनल स्टेशन
- D. यूरोप का एक प्रमुख हवाई अड्डा
- E. एक मेगा सिटी

-----The End-----

Map For Q.No. 29



Map For Q.N. 30



KENDRIYA VIDYALAYA SANGATHAN KOLKATA REGION
THIRD PRE-BOARD EXAMINATION 2019-2020
CLASS: XII
Business studies (054)

Time allowed: 3 hours

Maximum marks: 80

General Instructions:

- i) Answers to questions carrying 1 mark may be from one word to one sentence
- ii) Answers to questions carrying 3 marks may be from 50 to 75 words.
- iii) Answers to questions carrying 4-5 marks may be about 150 words.
- iv) Answers to questions carrying 6 marks may be about 200 words.
- v) Attempt all parts of a question together.

SECTION :- A		
1.	East Cost Ltd. offer employment to physically challenged persons. Identify the organisational objective it is trying to achieve.	(1)
2.	The production manager of a company is trying to produce good with minimum cost. Name the concept which is being focused by management.	(1)
3.	What do you mean by principle of unity of command?	(1)
4.	The production manager of an automobile company asked the foreman to achieve a target production of 200 scooters per day. But he did not give him the authority of requisition tools and materials from the stores department. Name the principle of management violated in this case.	(1)
5.	Which component of business environment requires that advertisements of baby food must necessarily inform the potential buyers that mother's milk is the best?	(1)
6.	Differentiate between 'Objective' and 'Strategy' as type of plan	(1)
7.	It is deciding in advance what to do, how to do when to do, and who is to do it. The function of management defined is a) Organising b)Controlling c) Staffing d)Planning	(1)
8.	Nisha, a school bag manufacturer decided to improve the product for profit maximization and thus added a water bottle holder to the existing design. Identify the marketing management philosophy adopted by Nisha	(1)
9.	No Smoking in the factory' is which type of plan A. Rule B. Objective C. Procedure D. Strategy	(1)
10	To combine or group similar or related jobs into larger units. Name this step of organising. a)identification and division of work b) Assignments of duties c) Departmentalisation d) Establishing Reporting Relationships	(1)
11	Which of the following is not an advantage of divisional structure : a)Managerial Development b) Easy o fix responsibility	(1)

	c) facilitates expansion and growth d) no duplication of activities	
12	The management of Vrinda Ltd. strongly believes that the members of an organization should work towards fulfilling the common organizational goals. This requires team work and integration of efforts of all individuals, departments and specialists. Identify the concept of management discussed above. a) Delegation b) Coordination c) Decentralisation d) Departmentation	(1)
13	Staffing process does not include which of the following steps a) Estimating the Manpower Requirements b) Recruitment c) Selection d) Departmentation	(1)
14	Under this a notice is placed on the notice board of the enterprise specifying the details of the jobs available. a) Direct Recruitment b) Casual callers c) Advertisement d) Employment Exchange	(1)
15	“Blue Birds Ltd. Offers to its employee’s issue of shares at a price which is less than the market price”. Name the type of incentive offered to the employees.	(1)
16	“A satisfied need can no longer motivate a person”. Who has given this concept? a) F.W. Taylor b) Henry fayol c) Abraham Maslow d) Peter F Ducker	(1)
17	Only significant deviations which go beyond the permissible limit should be brought to the notice of Management. It is known as a) Management by Exception b) Gang Plank c) Taking corrective action d) Critical Point Control	(1)
18	State one primary objective of Financial management.	(1)
19	Which of the following is the method of collecting capital? (a) Public Issue (b) Offer for Sale (c) Private Placement (d) All the above	(1)
20	Who, of the following, cannot be considered a consumer? (a) A person who buys things to further sell them consideration. (b) A person who gets things without consideration. (c) A person who uses things without the permission of the purchasers. (d) All the above	(1)
	SECTION :- B	
21	Explain any three points which highlight the importance of controlling function of management.	(3)
22	Shyam wanted to start a business of selling handicrafts by getting in	(3)

	touch with the craftsmen in the rural areas of Bengal. He wants to make a low investment in fixed Capital. Advise him in taking suitable decisions regarding the Nature of Business, Scale of operations and Financing Alternatives (in a developed financial market) that he needs to take for the purpose.	
23	In your school, you observe that books are kept in office, chinks in the library and office records in the staff room. a) Which principle of management is violated here? b) How will that affect the achievement of school objectives?	(3)
24	Ashima purchased a bottle of tomato-sauce from the local grocery shop. The information provided on the bottle was not clear. She fell sick on consuming it. She filed a case in the District Forum under Consumer Protection Act and got the relief. (a) Identify the important aspect neglected by the marketer in the above case. (b) Explain briefly two functions of the aspect identified in (a) above. OR Explain three factors affecting pricing decisions.	(3)
25	Ultra Paint Co. which is manufacturing paints has been enjoying a prominent market position as it manufactured best quality paints, made timely payment of taxes to government. It assembled various inputs like finance, machines, raw materials, etc. from its environment. But since last year it has been dumping its untreated poisonous waste on the river bank which has created many health problems for the people. As a result, the court passed an order to seal the manufacturing unit of the company. a. State the importance of business environment highlighted quoting the line from the above case. b) Identify any two dimensions of business environment mentioned in the above case by quoting lines from it. .	(3)
SECTION :- C		
26	State any four functions performed by non-governmental organisations for consumer protection. OR Reena purchased one litre of pure desi ghee from a shopkeeper. After using it, she had doubts that it was adulterated. She sent it for a laboratory test which confirmed that the ghee was adulterated. State any four reliefs available to Reena if she complains and the consumer court is satisfied about the genuineness of the complaint..	(4)
27	ABC Ltd. has a plan of increasing profits by 20%. It has devoted a lot of time and money to this plan. But the competition starts increasing, so it could not change its plan to beat its competitors because huge amount of money had already been devoted to the pre- decided plan. It caused losses to the company. Explain any two limitations of planning highlighted in the above case.	(4)
28	Rajat and Co. are running a shoe manufacturing company successfully. So they planned to expand their business activities by adding more line of products, i.e., leather bags, belts, and garments. Which type of structure would you recommend after expansion and why?	(4)
SECTION :- D		

29	<p>Nutan Tiffin Box service was started in Mumbai by Mumbai dabbawalas. The Dabbawalas who are the soul of entire Mumbai aim to provide prompt and efficient services by providing tasty homemade tiffin to all office goers at right time and place. The service is uninterrupted even on the days of bad weather, political unrest and social disturbances. Recently they have started online booking system through their website 'mydabbawals.com'. Owing to their tremendous popularity amongst the happy and satisfied customers and members, the dabbawalas were invited as guest lecturers by top business schools. The Dabbawalas operate in a group of 25-30 people along with a group leader. Each group teams up with other groups in order to deliver the tiffin on time. They are not transferred on frequent basis as they have to remember the addresses of their customers. They follow certain rules while doing trade-No alcohol during working hours; No leave without permission; Wearing of white cap & carrying ID cards during business hours. Recently on the suggestion of a few self-motivated fellow men, the dabbawalas thought out and executed a plan of providing food left in tiffin by customers to slum children. They have instructed their customers to place red sticker if food is left in the tiffin, to be fed to poor children later.</p> <p>a. Identify any three principle of management given by Fayol above by quoting the line.</p> <p>b. Write two characteristic of management mentioned in the above case.</p>	(5)
30	<p>'S' Limited is manufacturing steel at its plant in India. It is enjoying a buoyant demand for its products as economic growth is about 7% to 8% and the demand for steel is growing. It is planning to set up a new steel plant to cash on the increased demand it is facing. It is estimated that it will require about Rs 5,000 crores to set up and about Rs 500 crores of working capital to start the new plant.</p> <p>i) What are the two objectives of financial management for this company?</p> <p>ii) Explain three factors affecting the choice of source of long term finance for this company.</p> <p style="text-align: center;">OR</p> <p>Tata International Ltd. earned a net profit of Rs. 50 crores. Ankit the finance manager of Tata International Ltd. wants to decide how to appropriate these profits. Identify the decision that Ankit will have to take and also discuss any four factors which help him in taking this decision.</p>	(5)
31	<p>Mr. Sanjay Nehra was the Chairman of 'Taran bank.' The bank was earning good profits. Shareholders were happy as the bank regular dividends. The market price of their shares was also steadily rising. The bank was about to announce taking over of 'Vena Bank.' Mr. Sanjay Nehra knew that the share price of 'Taran Bank' would rise on this announcement. Being a part of the bank, he was not allowed to buy shares of the bank. He called one of his rich friends Sudhir and asked him to invest Rs.5 crores in shares of his bank promising him the</p>	(5)

	<p>capital gains. As expected the share prices went up by 40% and the market price of Sudhir's shares was now Rs. 7 crores. He earned a profit of Rs.2 crores. He gave Rs. 1 crore to Mr. Sanjay Nehra and kept Rs. 1 crore with himself. On regular inspection and by conducting enquiries of the brokers involved, Securities and Exchange Board of India (SEBI) was able to detect this irregularity. The SEBI imposed a heavy penalty on Mr. Sanjay Nehra.</p> <p>a) By quoting the lines from the above para identify and state any two functions that were performed by SEBI in the above case. b) Also explain two other main functions of SEBI.</p> <p style="text-align: center;">Or</p> <p>Explain any five functions of Stock Exchange.</p>	
SECTION :- E		
32	<p>Arvind is planning to start a company manufacturing room fresheners. He intends to use natural fruit extracts for adding fragrance to them. He estimates an investment of Rs. 20 crores to set up the factory. As it is difficult for him to raise the entire capital amount alone, he gives a partnership offer to his school friend, Sanjay who is an angel investor. Sanjay, after being convinced about the feasibility of the project, accepts his offer. Sanjay tells Arvind that they should also focus on other important decisions related to the product "room fresheners" besides deciding about its features, variety and quality. Branding is one of the important such decision.</p> <p>In the context of above case:</p> <p>a. Name any other two important decisions related to a product. b. Why is branding considered as an important function by the marketers? Give any one reason in support of your answer. c. State any four features of a good brand name.</p>	(6)
33	<p>Ashish, the Marketing Head, Raman, the Assistant Manager and Jyoti the Human Resource Manager of 'Senor Enterprises Ltd. decided to leave the company. The Chief Executive Officer of the company called Jyoti the Human Resource Manager and requested her to fill up the vacancies before leaving the organisation. Informing that her subordinate Miss Alka Pandit was very competent and trustworthy, Jyoti suggested that if she could be moved up in the hierarchy, she would do the needful. The Chief Executive Officer agreed for the same. Jyoti contacted 'Keith Recruiters' who advertised for the post of marketing head for 'Senor Enterprises Ltd., They were able to recruit a suitable candidate for the company. Raman's vacancy was filled up by screening the database of unsolicited applications lying in the office.</p> <p>(a) Name the internal/external sources of recruitment used by 'Senor Enterprises Ltd.' to fill up the above stated vacancies. (b) Also explain any one merit of each of the above identified source of recruitment</p> <p style="text-align: center;">Or</p> <p>Explain the process of selection.</p>	(6)
34	<p>Kavita recently joined as the human resource director of Arjun Vidyamandir School, A senior secondary educational institute. She</p>	(6)

observed that the school had an experienced medical team on its payroll. They regularly offered useful suggestions which were neither appreciated nor rewarded by the school authorities. Instead the school outsourced the task of maintenance of health records of the students and paid them a good compensation for their services. Because of this, the existing medical team felt disheartened and stopped giving useful suggestions.

- a) Identify the communication barrier discussed above.
- b) State the category of this communication barrier.
- c) Explain another three communication barriers of the same category.

OR

Roshan is the chief of “Khidmat” restaurant located in the city of Bangaluru. The place is known for its exquisite Mughlai cuisine especially mutton briyani and kababs. All the food is prepared under Roshan’s purview. The various activities in the kitchen are initiated in accordance to his instructions. He is very clear and specific in issuing instructions to his subordinates in order to ensure smooth working of the department. He personally oversees the method followed by the chefs for preparation of each dish. He misses no opportunity to praise his subordinates for their good work. All his team members feel very happy and satisfied under his direction. He provides constant guidance to them in order to improve upon its taste and presentation and also encourages them to innovate and be more creative in their work.

In the above context:

- a) Identify the various elements of directing mentioned in the above paragraph by quoting lines from the paragraph.
- b) Describe briefly any two points to highlight the importance of directing as a function of management

KENDRIYA VIDYALAYA SANGATHAN KOLKATA REGION

THIRD PRE-BOARD EXAMINATION 2019-2020

CLASS: XII

CHEMISTRY

Time : 3 hrs.

M. Marks : 70

General Instructions

- (a) All questions are compulsory.
- (b) Section A: Q.no. 1 to 20 are very short answer questions and carry 1 mark each.
- (c) Section B: Q.no. 21 to 27 are short answer questions and carry 2 marks each.
- (d) Section C: Q.no. 28 to 34 are long answer questions and carry 3 marks each.
- (e) Section D: Q.no. 35 to 37 are also long answer questions and carry 5 marks each.
- (f) There is no overall choice. However an internal choice has been provided in two questions of two marks, two questions of three marks and all the three questions of five marks weightage. You have to attempt only one of the choices in such questions.
- (g) Use log tables if necessary, use of calculators is not allowed.

SECTION A

Read the given passage and answer the questions 1 to 5 that follow:

Glucose reacts with hydroxyl amine to form an oxime and with hydrogen cyanide to form cynohydrin. When glucose was acetylated it formed pentaacetate. When the pentaacetate of glucose was made to react with hydroxylamine it did not form oxime.

- Q1) Formation of oxime and cynohydrin indicates the presence of which functional group in glucose ?1
- Q 2) Name the reagent which can acetylate glucose . 1
- Q 3) Why does glucose form a penta acetate? 1
- Q 4) Why doesn't glucose pentaacetate react with hydroxylamine ? 1
- Q 5) Draw the structure of α -D-(+)-glucopyranose. 1

Answer questions 6 to 10 in one word :

- Q 6) Fog is a colloidal system of gas dispersed in a gas . (TRUE OR FALSE). 1
- Q 7) Name the metal which can be extracted by the process of leaching. 1
- Q 8) Draw the structure of HClO_3 . 1
- Q 9) On adding AgNO_3 solution to one mole of $\text{PdCl}_2 \cdot 4\text{NH}_3$, two moles of AgCl are formed. The secondary valency of Pd in the complex is _____. 1
- Q 10) Oxidation number of Cr in $[\text{Cr}(\text{NH}_3)_4(\text{NO}_2)\text{Cl}]^+$ is _____. 1

Questions 11 to 15 are multiple choice questions. Choose the correct option:

Q 11) The IUPAC name of one of the ionisation isomer of $[\text{Cr}(\text{H}_2\text{O})_5\text{Cl}]\text{Cl}_2$ is : 1

- a) pentaquachromium(I)chloride.
- b) pentaquachromium(II)chloride.
- C) pentaquachromium(III)chloride.
- D) pentaquachromium(IV)chloride.

Q 13) If conductivity and conductance of a solution is same, then its cell constant is equal to 1

- a)1
- b)0
- c)10
- d)100

Q14). The time required for 50% completion of zero order reaction is 1

- A) $[\text{R}_0] / k$
- B) $[\text{R}_0] / 2k$
- C) $[\text{R}_0] / k$
- D) None of these.

Q 15) In physical adsorption the forces associated are 1

- a) Ionic
- b) covalent
- c) vanderwaals
- d) hydrogen bonding

Questions 16 to 20 :Assertion and Reason Question

(A) Both assertion and reason are correct statements, and reason is the correct explanation of the assertion.

(B) Both assertion and reason are correct statements, but reason is not the correct explanation of the assertion.

(C) Assertion is correct, but reason is wrong statement.

(D) Assertion is wrong, but reason is correct statement.

Q 16) Assertion: Addition of Br_2 to but-1-ene gives two optical isomers. 1

Reason: The product contains one asymmetric carbon.

Q 17) Assertion : Benzylbromide when kept in acetone water mixture forms benzylalcohol. 1

Reason : The reaction follows $\text{S}_{\text{N}}2$ mechanism.

Q 18) Assertion: Phenol undergoes Kolbe's reaction but ethanol does not. 1

Reason: Phenol is more acidic than alcohol.

Q 19) Assertion: Network polymers are thermosetting. 1

Reason: Network polymers have low molecular mass.

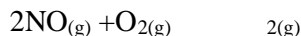
Q 20)Assertion: Olefinic monomers undergo addition polymerization 1

Reason: Polymerisation of vinyl chloride is initiated by peroxides.

SECTION : B

Q 21)The experimentally determined molar mass for which type of substance is always lower than the true value when water is used as a solvent. Explain with an example. 2

Q 22)The following reaction takes place in one step 2



How will the rate of the above reaction change if the volume of the reaction vessel is diminished to one third of the original volume ?Will there be any change in the order of the reaction.Rate law is given as :

$$\text{Rate} = k[\text{NO}]^2 [\text{O}_2].$$

Q23) What is meant by vapour phase refining ?Write any one example with the equations involved.2

OR

Write and illustrate all the equations involved during the concentration of alumina ore by leaching.

Q24) Complete the following : 2



Q 25) For the complex ion $[\text{Fe}(\text{CN})_6]^{3-}$. Write it's hybridization ,geometry & magnetic property. 2

Q26) Give reason

i)Although chlorine is an electron withdrawing group, yet it is ortho ,para directing in electrophillic substitution reaction 2

ii)Butan-2-ol shows optical activity whereas Butan-1-ol does not.

Q 27)How will you distinguish between the following pairs : 2

a) isopropyl alcohol & n propyl alcohol

b)phenol & anisole.

OR

How will you distinguish between the following pairs :

a) Methanal and Ethanal

b) Benzaldehyde and acetaldehyde

SECTION C

Q 28) A solution containing 3.1 g BaCl₂ in 250 g of water boils at 100.083 °C .Calculate the Van't Hoff factor and molality of BaCl₂ in this solution.(K_b for water =0.52 Km⁻¹,molar mass of BaCl₂ =208.3g/mol).

3

OR

Calculate the freezing point of an aqueous solution containing 10.5 g of MgBr₂ in 200 g of water.(molar mass of MgBr₂ =184g ,K_f for water =1.86 Km⁻¹

Q.29 The following data were obtained during the first order thermal decomposition of N₂O₅ at constant volume:-

3



Sl No	Time(sec)	Total pressure(atm)
1	0	0.5
2	100	0.512

Calculate the rate constant

Q.30 a) In reference to Freundlich adsorption isotherm, write the expression for adsorption of gases on solids in the form of equation.

3

b) Out of AlCl₃ and MgSO₄ which one is more effective in causing coagulation of As₂S₃ sol and why?

c) Define zeta potential

Q.31 Give reasons for the following:

3

a) Sulphur has greater tendency for catenation than oxygen

b) O₃ act as a powerful oxidizing agent.

c) Electron gain enthalpy of fluorine is less than that of chlorine.

Or

Draw the structures of :-

i) XeOF₄

ii) BrF₅

iii) H₂S₂ O₈

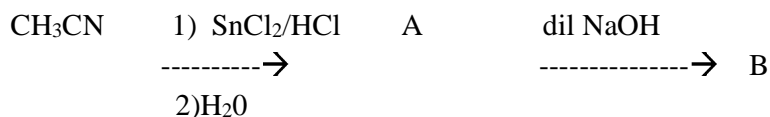
Q.32 How will you bring about the following conversion: 3

a) phenol to benzoquinone

b) Propanone to 2-methylpropan-2-ol

c) Ethyl magnesium chloride to propan-1-ol

Q.33a) Identify A,B, 3



b) Explain the mechanism of acid catalysed dehydration of an alcohol forming an alkene.

Q.34 Explain the following with an example each:- 3

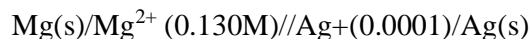
a) A sweetening agent

b) Analgesics

c) Antipyretics

SECTION – D

Q.35 a) Calculate E_{cell} for the following cell 5



$$\text{Given: } E^{\circ}_{\text{cell}} = 3.17\text{V}$$

b) Aqueous solution of copper sulphate and silver nitrate are electrolysed by 1 ampere current for 10 minutes in separate electrolytic cells. Will the mass of copper and silver deposited on the cathode be same or different? Explain your answer.

Or

a) Calculate the degree of dissociation of 0.0024 M acetic acid if conductivity of this solution is 8.0x10⁻⁵ S cm⁻¹

$$\text{Given } \lambda^{\circ}_{\text{H}^+} = 349.6 \text{ S cm}^2 \text{ mol}^{-1}; \quad \lambda^{\circ}_{\text{CH}_3\text{COO}^-} = 40.9 \text{ cm}^2 \text{ mol}^{-1}$$

b) Solutions of two electrolytes 'A' and 'B' are diluted. The limiting molar conductivity of "B" increases to a smaller extent while that of 'A' increases to a much larger extent comparatively. Which of the two is a strong electrolyte? Justify your answer.

36 An organic compound A' with molecular formula C₇H₇NO reacts with Br₂/aqKOH to give compound B', which upon reaction with NaNO₂ & HCl at 0°C gives C'. Compound C' on heating with H₃PO₂ gives a

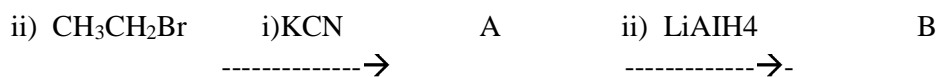
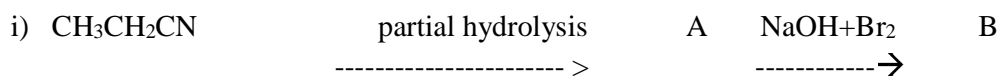
hydrocarbon D'. Compound B' on further reaction with Br₂ water gives white precipitate of compound E'. Identify the compound A,B,C,D & E; also justify your answer by giving relevant chemical equations. 5

OR

How will you convert:

- i) Aniline into Fluorobenzene
- ii) Benzamide into Benzylamine
- iii) Aniline to O-bromoaniline.

Write the structures of A and B in the following:



37 A) When a chormite ore(A) is fused with an aqueous solution of sodium carbonate in free excess of air, a yellow solution of compound B) is obtained. This solution is filtered and acidified with sulphuric acid to form compound C). Compound(C) on treatment with solution of KCl gives orange crystals of compound D). Write the Chemical formulae of compounds A to D. 5

B) Describe the cause of the following variations with respect to lanthanoids and actinoids

- i) Greater range of oxidation states of actinoids as compared to lanthanoids.
- ii) Greater actinoid contraction as compared to lanthanoid contraction.

C) Arrange in increasing order of acidic character: MnO_2 , MnO , Mn_2O_7

OR

A) What happens when:-

- i) Manganate ion undergoes disproportionation reaction in acidic medium ?
- ii) Lanthanum is heated with Sulphur ?

B) Explain the following trends in the properties of the members of the First series of transition elements:

- i) $E^\circ(\text{M}^{2+}/\text{M})$ value for copper is positive(+0.34V) in contrast to the other members of the series.
- ii) Cr^{2+} is reducing while Mn^{3+} is oxidising. Though both have d^4 configuration.
- iii) The oxidising power in the series increases in the order $\text{VO}_2^+ < \text{Cr}_2\text{O}_7^{2-} < \text{MnO}_4^-$

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